XR-3750

SERVICE MANUAL

Saudi Arabia Model

Model Name Using Similar Mechanism	XR-4800
Tape Transport Mechanism Type	MG-25F-136

SPECIFICATIONS

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.08 % (WRMS)
Frequency response	30 – 18,000 Hz
Signal-to-noise ratio	58 dB

Tuner section

FM

Tuning range	87.5 – 108.0 MHz
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	9 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	0.7 % (stereo), 0.4 % (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz

MW

Tuning range	531 – 1,602kHz
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450kHz
Sensitivity	30 µV

SW

Tuning range	SW tuning interval: SW1 :2,940 – 7,735kHz SW2 :9,500 – 18,135kHz (except for 10,140 – 11,575kHz)
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450kHz
Sensitivity	30 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	35 W × 4 (at 4 ohms)

General

Outputs	Power antenna control lead/Power amplifier control lead/Telephone mute control lead Rear line out (1)
Tone controls	Bass ±8 dB at 100 Hz Treble ±8 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 188 × 58 × 182 mm (w/h/d)
Mounting dimensions	Approx. 182 × 53 × 164 mm (w/h/d)
Mass	Approx. 1.3 kg
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)

Design and specifications are subject to change without notice.

FM/MW/SW CASSETTE CAR STEREO

MICROFILM

MC-Service

SONY®

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Flexible Circuit Board Repairing

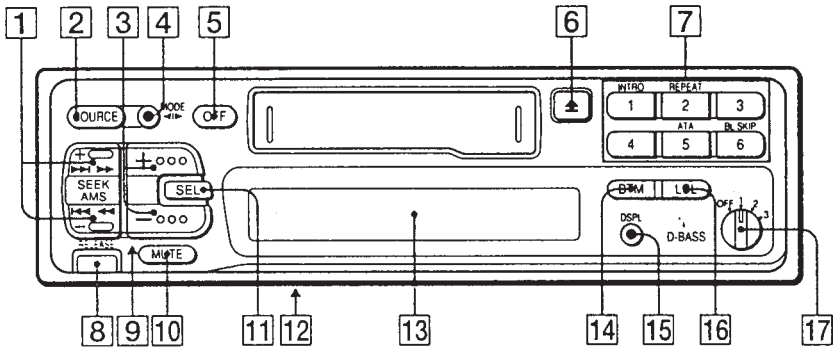
- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

This section is extracted from instruction manual.

Location of controls



GB Refer to the pages for further details.

1 SEEK/AMS button 5, 6, 7, 8

2 SOURCE button (TAPE/TUNER) 5, 7

3 ⊕⊖ (volume/bass/treble/balance/fader control) button 5, 8

4 MODE (◄I►) button
During tuner reception:
BAND select 7

During tape playback:
Transport direction change 5

5 OFF button 4, 5

6 ⏏ (eject) button 5

7 During radio reception:
Preset number buttons 7

During tape playback:
① INTRO button 6
② REPEAT button 6
⑤ ATA (Automatic Tuner Activation) button 6
⑥ BL.SKIP (Blank Skip) button 6

8 RELEASE (front panel release) button 4, 10

9 Reset button (located on the front side of the unit hidden by the front panel)
Press this button when you use this unit for the first time, when you have changed the car battery, or when the buttons of this unit do not function properly.

10 MUTE button 8

11 SEL (control mode select) button 5, 8, 9

12 POWER SELECT switch (located on the bottom of the unit)
See "POWER SELECT Switch" in the Installation/Connections manual.

13 Display window

14 BTM (Best tuning memory) button 7

15 DSPL (display mode change/time set) button 5, 6, 8

16 LCL button 8

17 D-BASS control 8

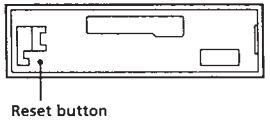
When the position of switch 12 has been changed, be sure to press the reset button after connecting power.

12

Getting Started

Resetting the unit

Before operating the unit for the first time or after replacing the car battery, you must reset the unit.
Press the reset button with a pointed object, such as a ball-point pen.



Note
Pressing the reset button will erase all the memorized program and memory functions.

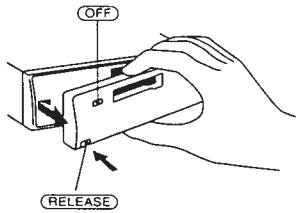
GB

Detaching the front panel

The front panel of this unit can be detached to prevent the unit from being stolen.

1 Press (OFF).

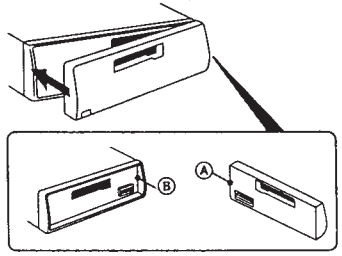
2 **Press (RELEASE) to open up the front panel. Then slide the front panel a little to the left, and pull it off towards you.**



Notes
- *Be sure not to drop the panel when detaching it from the unit.*
- *If you press (RELEASE) to detach the panel while the unit is still turned on, the power will automatically turn off to protect the speakers from being damaged.*

Attaching the front panel

Attach part Ⓐ of the front panel to part Ⓑ of the unit as illustrated and push until it clicks.



Notes
- *Make sure the front panel is the right way up when attaching it to the unit as it cannot be attached upside down.*
- *Do not press the front panel hard against the unit when attaching it to the unit. It can easily be attached by pressing it lightly against the unit.*
- *When you carry the front panel with you, put it in the supplied front panel case.*
- *Do not press hard or give excessive pressure to the display windows of the front panel.*
- *Do not expose the front panel to direct sunlight, heat sources such as hot air ducts or leave it in a humid place. Never leave it on the dashboard etc. of a car parked in direct sunlight where there may be a considerable rise in temperature inside the car.*

Caution alarm

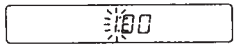
If you turn the ignition key to the OFF position without removing the front panel, the caution alarm will beep for a few seconds (only when the POWER SELECT switch is set to the Ⓐ position). If you connect an optional power amplifier and do not use the built-in amplifier, the beep tone will be disabled.

Setting the clock

The clock has a 12-hour digital indication.
For example, setting it to 10:08

1 **Press (OFF) or (DSPL) during operation.**

2 **Press (DSPL) for two seconds.**



The hour digit flashes.

❶ **Set the hour digits.**

To go forward
To go backward

❷ **Press (SEL) momentarily.**

The minutes digits flashes.

❸ **Set the minute digits.**

To go forward
To go backward

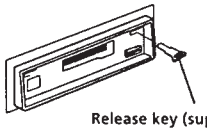
3 **Press (DSPL) momentarily.**

The clock starts.

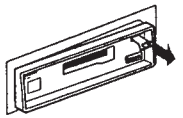
Note
If the POWER SELECT switch on the bottom of the unit is set to the Ⓑ position, the clock cannot be set unless the power is turned on. Set the clock after you have turned on the radio.

Dismounting the unit

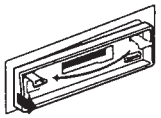
1



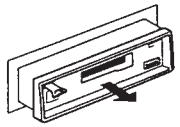
2



3



4



Installation

التركيب

Precautions

- Do not tamper with the four holes on the upper surface of the unit. They are used for tuner adjustments to be made only by service technicians.
- Choose the mounting location carefully so the unit does not interfere with normal driving operations.
- Avoid installing the unit where it would be subject to high temperatures, such as from direct sunlight or hot air from the heater, or where it would be subject to dust, dirt or excessive vibration.
- Use only the supplied mounting hardware for safe and secure installation.

Mounting angle adjustment

Adjust the mounting angle to less than 20°.

تنبيهات إحتياطية

- لا تعبث بالثقوب الاربعة الموجودة على السطح العلوي للوحدة. تستخدم هذه الثقوب لعمليات ضبط موالف البث التي يجريها فنّي الصيانة
- قم باختيار موقع التركيب بعناية بحيث لا تعيق الوحدة السائق اثناء قيادة السيارة
- تجنب تركيب الوحدة حيث تكون معرضة لدرجات حرارة مرتفعة، كأن تتعرض لضوء الشمس المباشر او للهواء الساخن من الدفاية، او حيث تتعرض للغبار او الاوساخ او الاهتزازات الزائدة.
- لا تستعمل مستلزمات تركيب غير تلك المجهزة وذلك لضمان السلامة والتركيب الأمن

ضبط زاوية التركيب

اضبط زاوية التركيب اقل من ٢٠°.

How to Detach and Attach the Front Panel

Before installing the unit, detach the front panel.

To detach

Before detaching the front panel, be sure to press (OFF) to turn off the unit. Then press (RELEASE), slide the front panel a little to the left, and pull it off towards you.

To attach

Align parts Ⓐ and Ⓑ, and push the front panel in until it clicks.

كيفية نزع وتركيب اللوحة الامامية

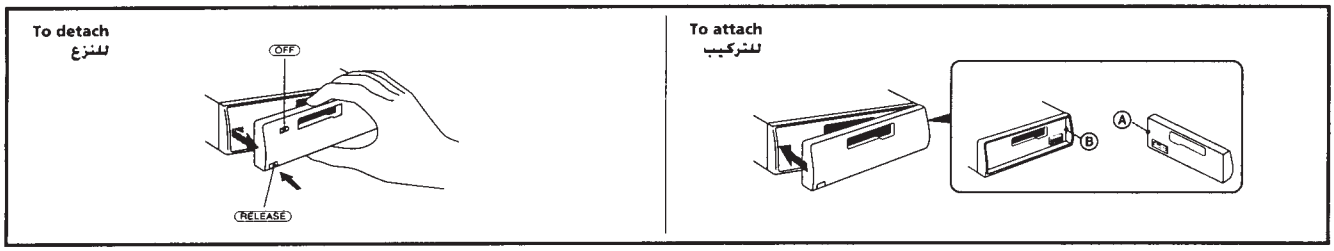
قبل تركيب الوحدة، إنزع اللوحة الامامية.

للنزع

قبل نزع اللوحة الامامية، تاكد من ضغط الزر (OFF) لا يقاف الوحدة. ثم اضغط الزر (RELEASE)، اسحب اللوحة الامامية قليلا إلى اليسار، واسحبها للخارج باتجاهك.

للتركيب

قم بمحاذاة الاجزاء Ⓐ و Ⓑ وادفع اللوحة الامامية الى الداخل الى ان تصدر عنها طقة

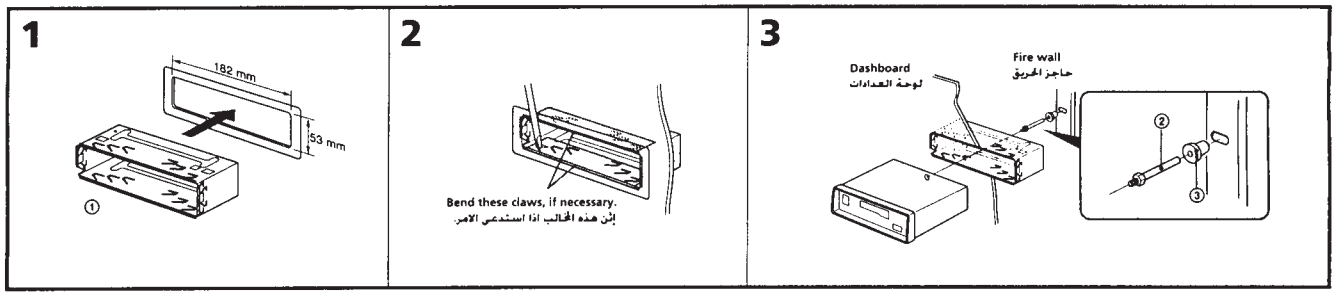


Mounting example

Installation in the dashboard

مثال على التركيب

التركيب على لوحة العدادات

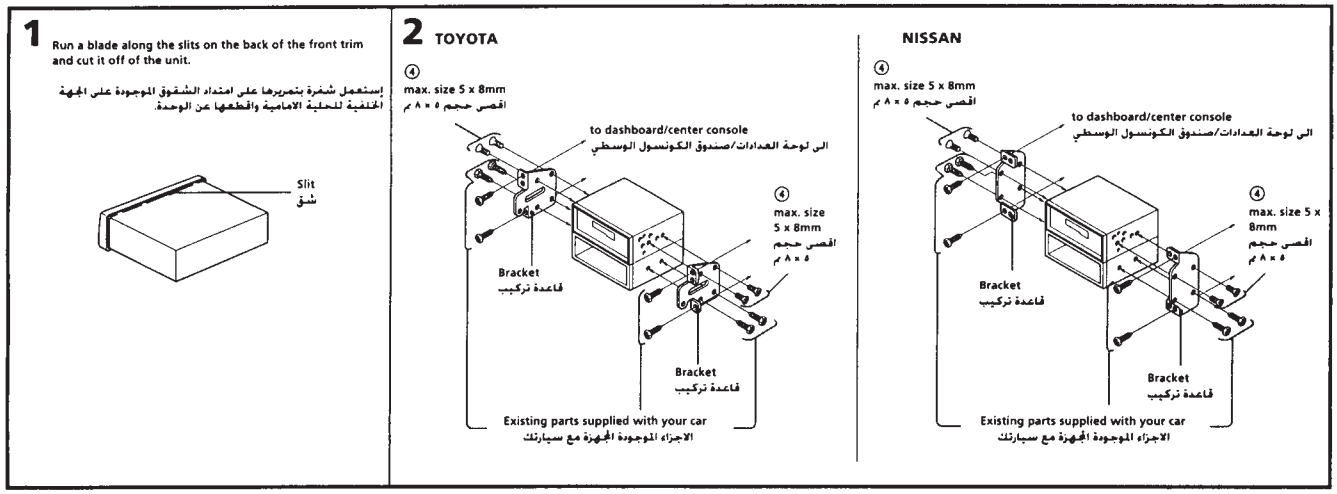


Mounting the Unit in a Japanese Car

You may not be able to install this unit in some makes of Japanese cars. In such a case, consult your Sony dealer.

تركيب الوحدة في سيارة يابانية

هذه الوحدة لا يمكن تركيبها في بعض انواع السيارات. في تلك الحالة، قم باستشارة اقرب موزع لمنتجات سوني لديك.



Note

To prevent malfunction, install only with the supplied screws ④. Do not use an electric or impact screwdriver.

ملاحظة

لمنع العطل، قم بتركيب الوحدة باستعمال البراغي المجهزة فقط ④. لا تستعمل مفك براغي كهربائي او تصادمي

Connection

التوصيل

Caution

- This unit is designed for negative ground 12 V DC operation only.
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key switch is in the accessory position.
- **Run all ground wires to a common ground point.**
- Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating.
  If you connect this unit in series with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual components' fuse rating.
  If there are no car circuits rated as high as the unit's fuse rating, connect the unit directly to the battery.
  If no car circuits are available for connecting this unit, connect the unit to a car circuit rated higher than the unit's fuse rating in such a way that if the unit blows its fuse, no other circuits will be cut off.

تنبيهات

- هذه الوحدة مصممة للتشغيل على تيار مباشر ١٢ فولت بتأريض سالب فقط.
- قبل عمل التوصيلات، إفصل طرف توصيل الارضي الخاصة ببطارية السيارة لتفادي حدوث تماس كهربي.
- لا تقم بتوصيل اسلاك دخل التيار **الاصفر والاحمر** إلا بعد الانتهاء من توصيل جميع الاسلاك الاخرى.
- تأكد من توصيل سلك دخل التيار الاحمر بطرف التيار ١٢ فولت الموجب الذي يسري فيه التيار عندما يكون مفتاح تشغيل المحرك في الوضع الثانوي (وضع الكماليات).
- **قم بتمديد جميع اسلاك التأريض الى نقطة تأريض مشتركة.**
- قم بتوصيل السلك الاصفر بدائرة كهربائية غير مستعملة في السيارة بمعايرة تزيد عن معايرة فيوز الوحدة
  اذا قمت بتوصيل الوحدة على التوالي مع اجهزة ستيريو اخرى، فيجب ان تكون الدائرة الكهربائية التي يتم توصيلها بها بمعايرة اعلى من مجموع معايرات فيوزات الاجهزة الموصلة.
  اذا لم توجد دائرة كهربائية في السيارة بمعايرة تساوي معايرة فيوز الوحدة، قم بتوصيل الوحدة بالبطارية مباشرة.
  اذا لم توجد دائرة كهربائية لتوصيل الوحدة، قم بتوصيل الوحدة بدائرة كهربائية في السيارة بمعايرة اعلى من معايرة فيوز الوحدة بطريقة تحول دون قطع اي دوائر اخرى في حالة احتراق فيوز الوحدة.

If Your Car has No Accessory Position on the Ignition Key Switch — POWER SELECT Switch

The illumination on the front panel is factory set to be turned on even while the unit is not in use. However, this setting may cause some car battery wear **if your car has no accessory position on the ignition key switch**. To avoid this battery wear, **set the POWER SELECT switch located on the bottom of the unit to the ⓑ position, then press the reset button**. The illumination is reset to stay off while the unit is not in use.

Note

The caution alarm for the front panel is not activated when the POWER SELECT switch is set to the ⓑ position.

اذا كانت سيارتك لا تتضمن موضعاً ثانوياً في مفتاح تشغيل المحرك – مفتاح اختيار التيار POWER SELECT

الاضاءة الموجودة على اللوحة الامامية مهيأة في المصنع بحيث تضاء حتى اثناء عدم استعمال الوحدة. على ان هذه التهيئة يمكن ان تتسبب في استهلاك شحنة بطارية السيارة **اذا كانت سيارتك لا تتضمن موضعاً ثانوياً (موضع الكماليات) في مفتاح تشغيل المحرك**. لتفادي استهلاك شحنة البطارية، **اضبط مفتاح اختيار التيار POWER SELECT الموجود بقاع الوحدة على الوضع ⓑ ثم اضغط زر اعادة التهيئة**. تعاد تهيئة الاضاءة بحيث تظل مطفأة اثناء عدم استعمال الوحدة.

ملاحظة

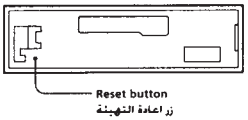
لا يتم تنشيط منبه تحذير اللوحة الامامية عند ضبط مفتاح إختيار الصدل POWER SELECT الوضع ⓑ

Reset button

When the installation and connections are complete, be sure to press the reset button with a ball-point pen etc.

زر اعادة التهيئة

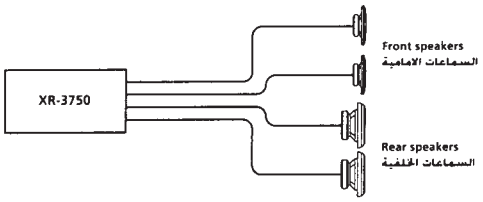
عند الانتهاء ممن التركيب والتوصيلات، تأكد من ضغط زر اعادة التهيئة باستعمال قلم جاف الخ. زر اعادة التهيئة موجود على يسار الموصل الموجود على جانب الوحدة عند نزع اللوحة الامامية.



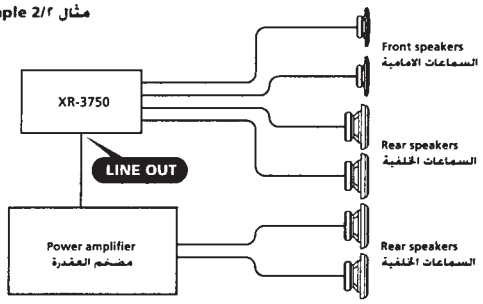
Connection diagram

مخطط التوصيل

Example 1/ مثال ١



Example 2/ مثال ٢



Note

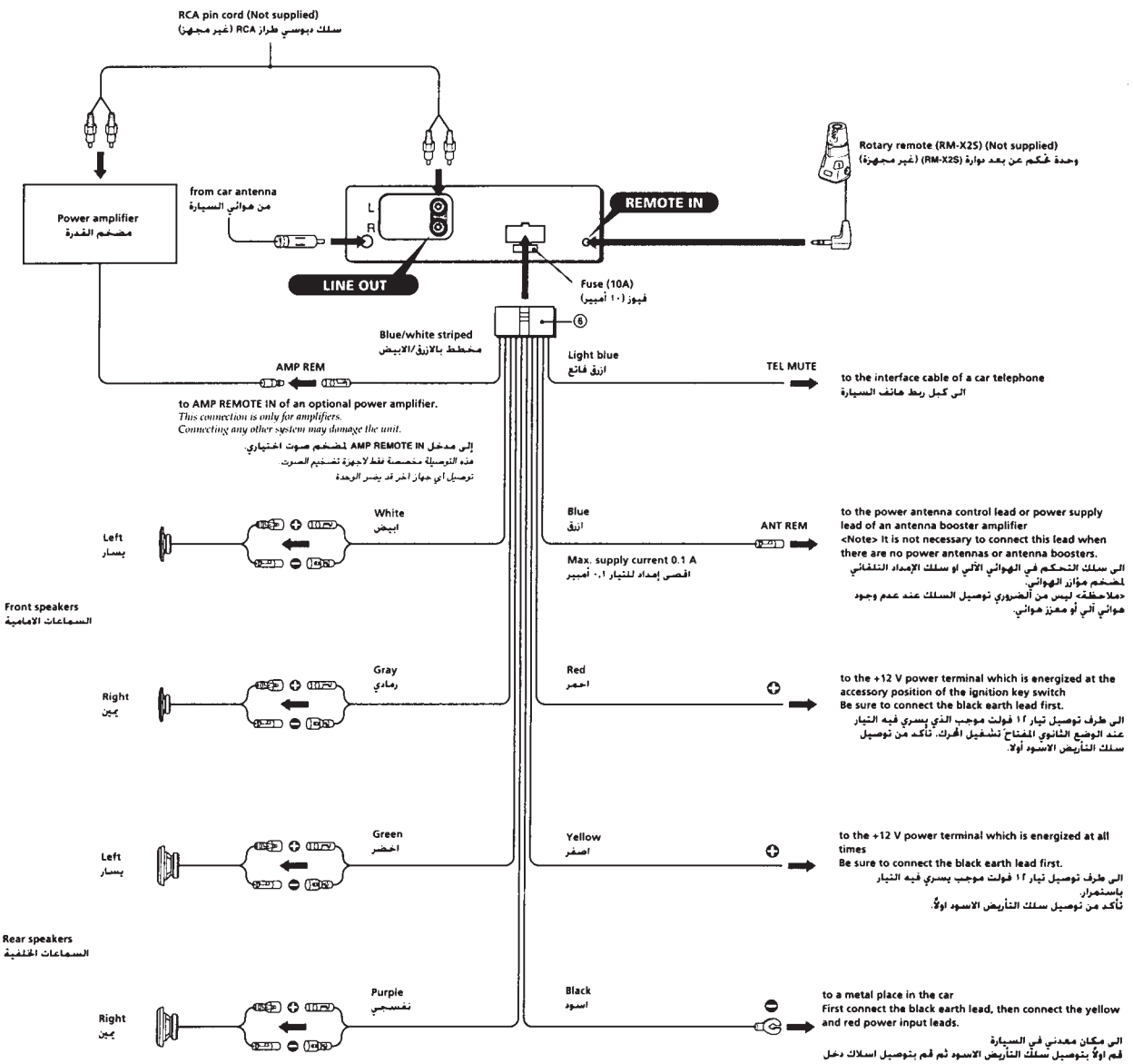
If you connect an optional power amplifier and do not use the built-in amplifier, the beep tone will be disabled.

ملاحظة

اذا قمت بتوصيل مضخم صوت اختياري ولم تستعمل مضخم الصوت الداخلي، يتم ايقاف تشغيل صوت التنبيه

Connection example

مثال على التوصيل


RCA pin cord (Not supplied)
سلك ديبوسي طراز RCA (غير مجهز)
Power amplifier
مضخم القدرة
from car antenna
من هوائي السيارة
L
R
REMOTE IN
LINE OUT
Rotary remote (RM-X2S) (Not supplied)
وحدة تحكم عن بعد دوارة (RM-X2S) (غير مجهزة)
Fuse (10A)
فيوز (١٠ أمبير)
Blue/white striped
مخطط بالازرق/الابيض
AMP REM
Light blue
ازرق فاتح
TEL MUTE
to the interface cable of a car telephone
الى كبل ربط هاتف السيارة
to AMP REMOTE IN of an optional power amplifier.
This connection is only for amplifiers.
Connecting any other system may damage the unit.
إلى مدخل AMP REMOTE IN لمضخم صوت اختياري.
هذه التوصيلة مخصصة فقط لاجهزة تضخيم الصوت.
توصيل اي جهاز اخر قد يضر الوحدة
White
ابيض
Left
يسار
Front speakers
السماعات الامامية
Blue
ازرق
ANT REM
Max. supply current 0.1 A
اقصى إمداد للتيار ٠.١ أمبير
to the power antenna control lead or power supply lead of an antenna booster amplifier
<Note> It is not necessary to connect this lead when there are no power antennas or antenna boosters.
الى سلك التحكم في الهوائي الآلي او سلك الإمداد التلقائي لمضخم مؤازر الهوائي.
<ملاحظة> ليس من الضروري توصيل السلك عند عدم وجود هوائي آلي أو معزز هوائي.
Gray
رمادي
Right
يمين
Red
احمر
to the +12 V power terminal which is energized at the accessory position of the ignition key switch
Be sure to connect the black earth lead first.
الى طرف توصيل تيار ١٢ فولت موجب الذي يسري فيه التيار عند الوضع الثانوي المفتاح تشغيل المحرك. تأكد من توصيل سلك التأريض الاسود أولا.
Green
اخضر
Left
يسار
Yellow
اصفر
to the +12 V power terminal which is energized at all times
Be sure to connect the black earth lead first.
الى طرف توصيل تيار ١٢ فولت موجب يسري فيه التيار باستمرار.
تأكد من توصيل سلك التأريض الاسود اولاً.
Rear speakers
السماعات الخلفية
Purple
نفسجي
Right
يمين
Black
اسود
to a metal place in the car
First connect the black earth lead, then connect the yellow and red power input leads.
الى مكان معدني في السيارة
قم اولاً بتوصيل سلك التأريض الاسود ثم قم بتوصيل اسلاك دخل التيار الاصفر والاحمر.

Notes on the control leads

- *The power antenna control lead (blue) supplies +12 V DC when you turn on the tuner or when you activate the ATA (Automatic Tuner Activation) function.*
- *A power antenna without a relay box cannot be used with this unit.*

Memory hold connection

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

Notes on speaker connection

- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.*
- *Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.*
- *Do not attempt to connect the speakers in parallel.*
- *Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.*

ملاحظات حول اسلاك التحكم

- *سلك التحكم في الهوائي الآلي (أزرق) يقوم بإمداد تيار مباشر ١٢ فولت موجب عندما تقوم بتشغيل الدفاية او عندما تقوم بتشغيل وظيفة ATA (التشغيل التلقائي بالوقت).*
- *لا يمكن استعمال هوائي الي بدون صندوق ترحيل مع هذه الوحدة*

توصيلة حفظ الذاكرة

عند توصيل سلك دخل التيار الاصفر، يتم إمداد التيار بصورة مستمرة الى دائرة الذاكرة حتى اثناء إيقاف مفتاح تشغيل المحرك

ملاحظات حول توصيل السماعات

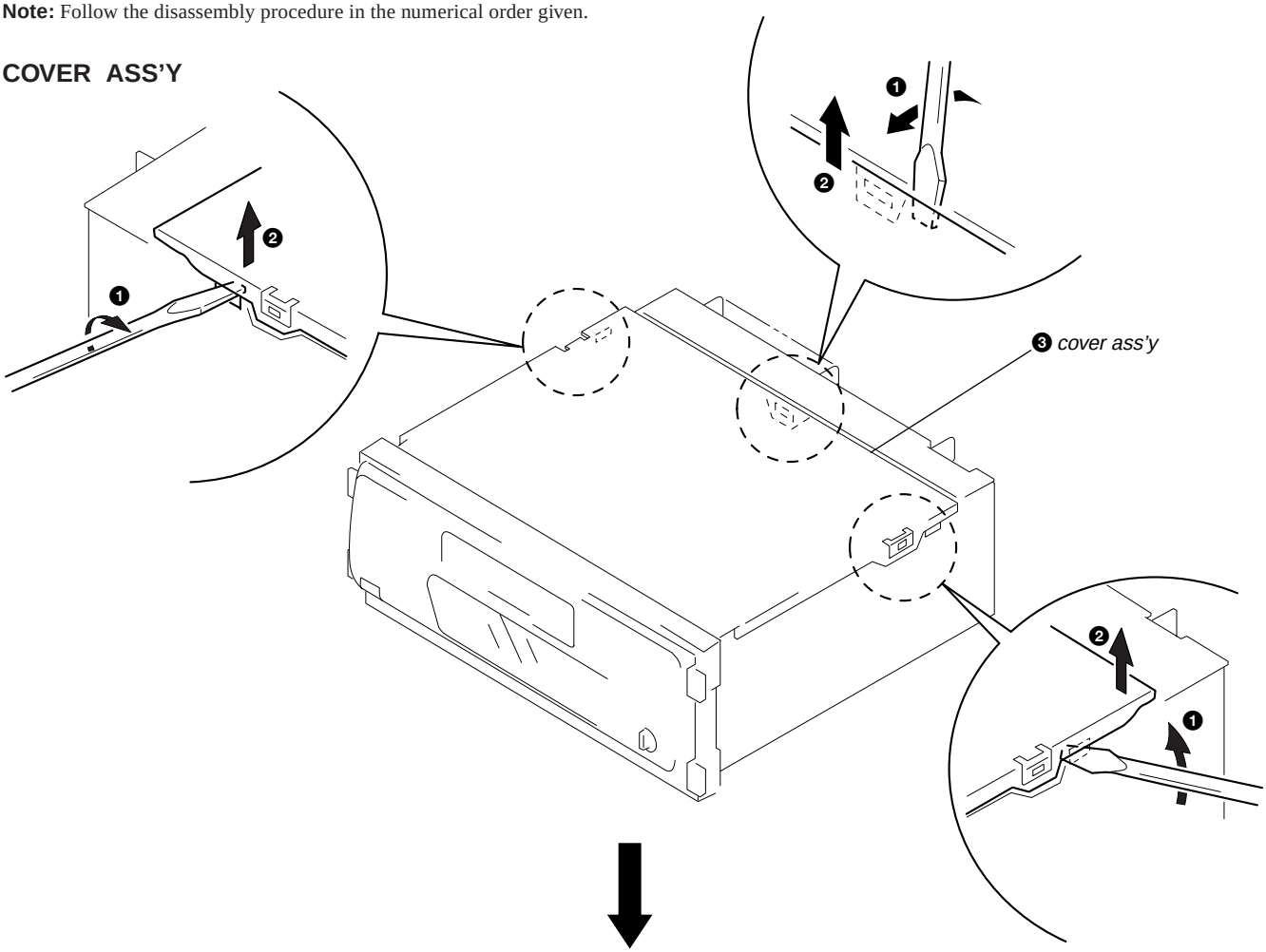
- *قبل توصيل السماعات، اوقف تشغيل الوحدة*
- *إستعمل سماعات بممانعة من 4 الى 8 اوم وسعة تحمّل قدرة مناسبة. اذا لم تفعل ذلك فقد تتلف السماعات*
- *لا تعمد الى توصيل اطراف توصيل نظام السماعات بشاسي السيارة ولا الى توصيل اطراف توصيل السماعات اليمنى باطراف توصيل السماعات اليسرى.*
- *لا تحاول توصيل السماعات على التوازي.*
- *لا تعمد الى توصيل اي سماعات نشطة (مجهزة بمضخمات داخلية) باطراف توصيل السماعات في الوحدة. يمكن لمثل هذا العمل ان يتلف السماعات النشطة. لذا تأكد من توصيل سماعات غير نشطة بتلك الاطراف*

MC-Service

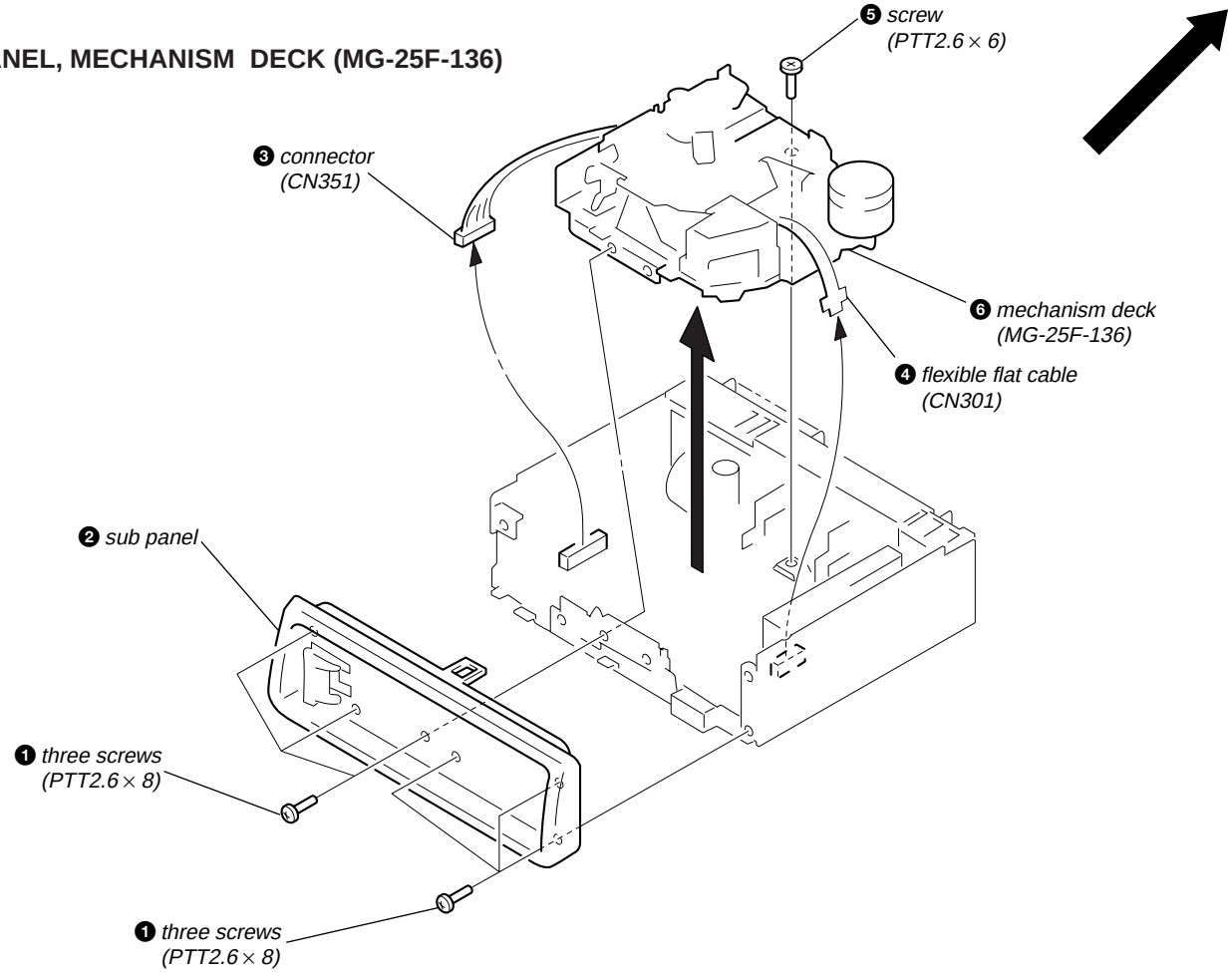
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

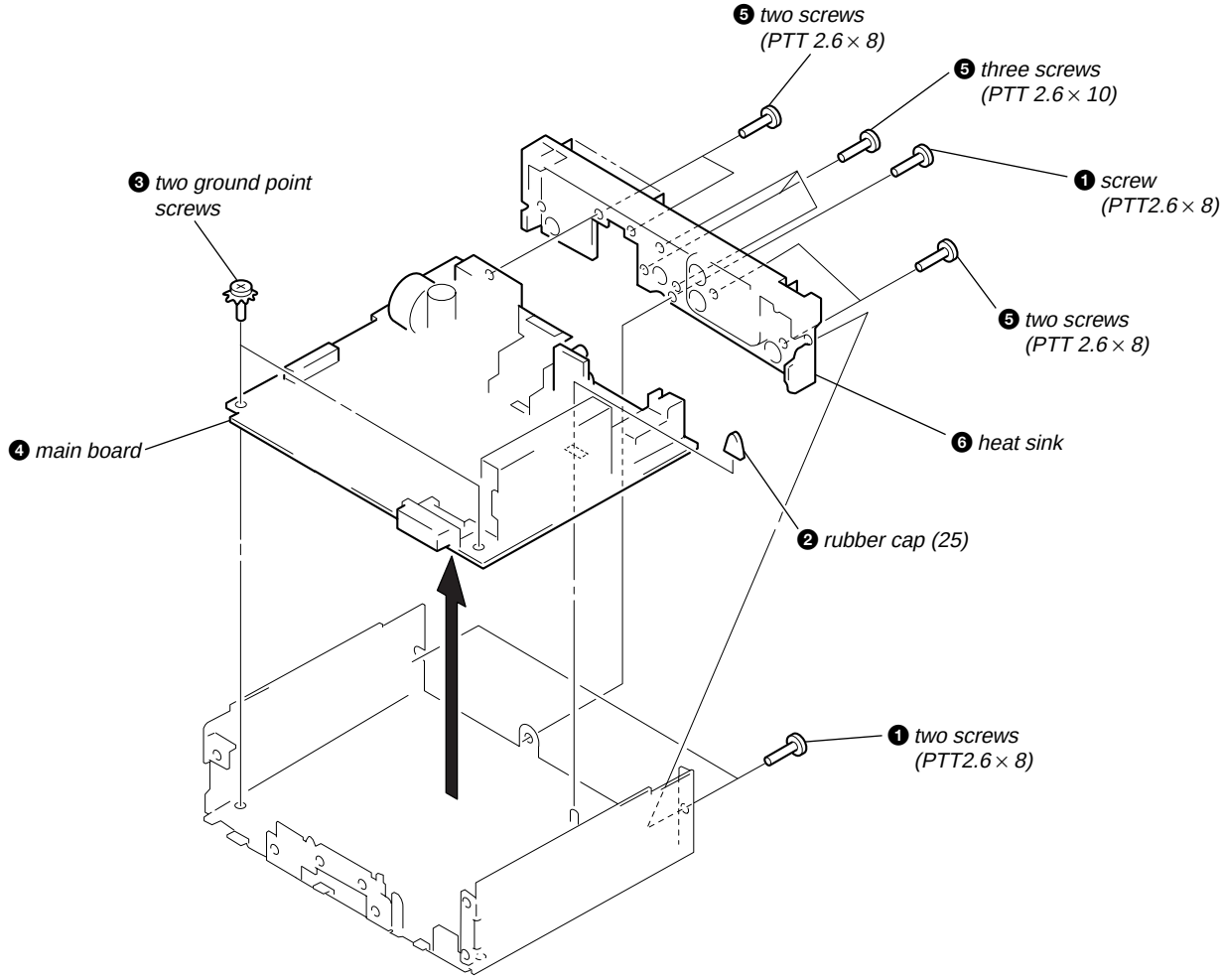
COVER ASS'Y



SUB PANEL, MECHANISM DECK (MG-25F-136)



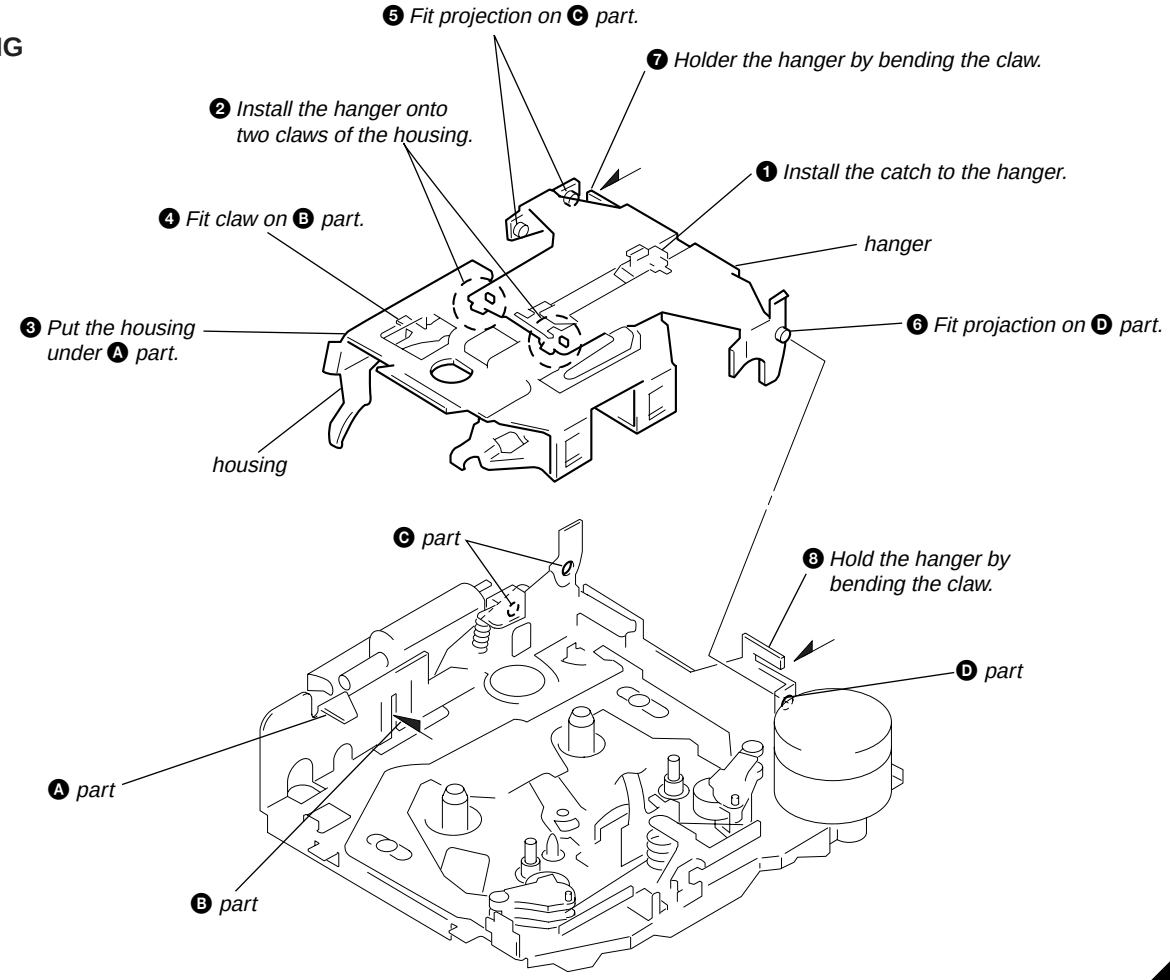
MAIN BOARD, HEAT SINK



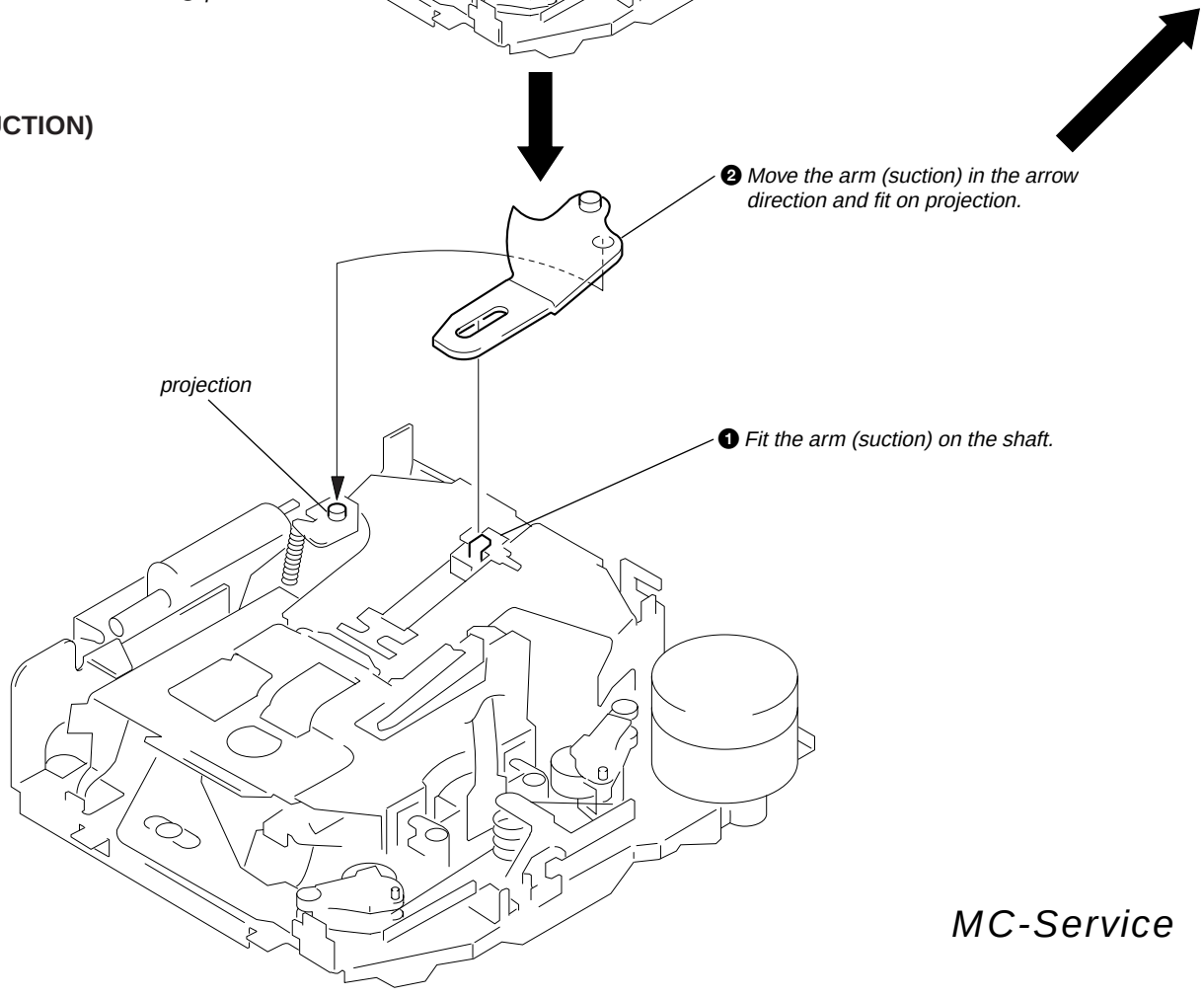
SECTION 3
ASSEMBLY OF MECHANISM DECK

Note: Follow the disassembly procedure in the numerical order given.

HOUSING

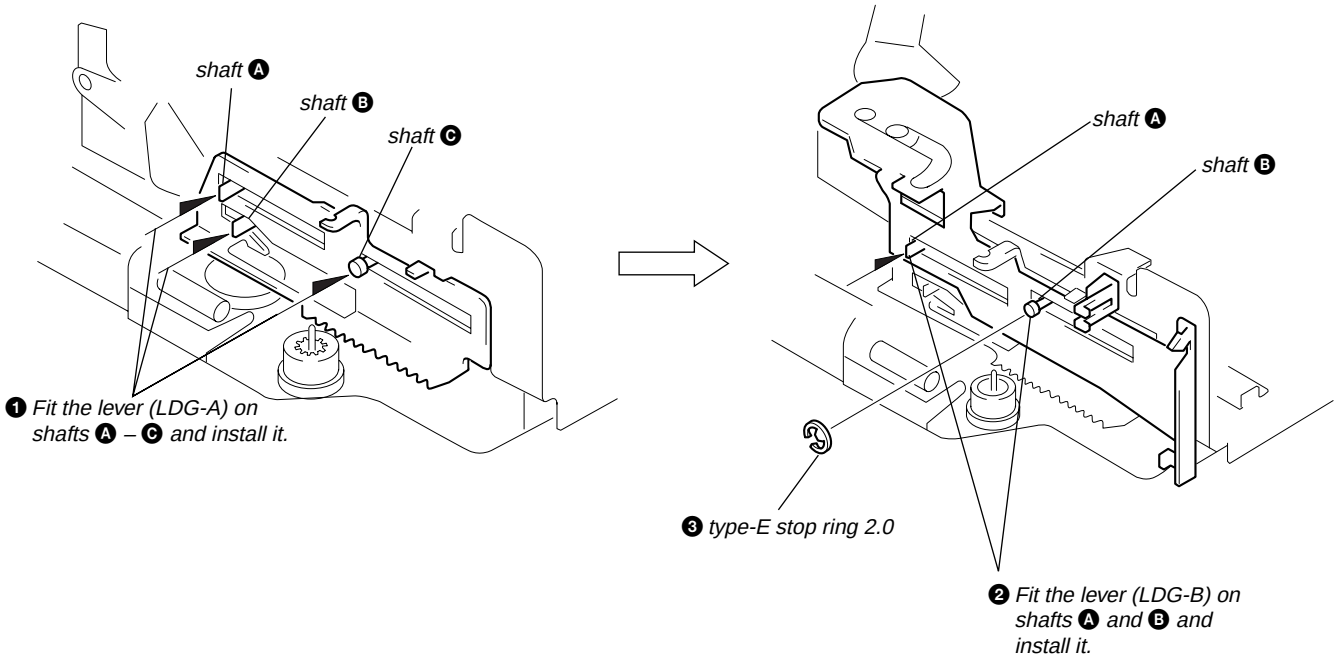

❺ Fit projection on Ⓒ part.
❼ Holder the hanger by bending the claw.
❷ Install the hanger onto two claws of the housing.
❶ Install the catch to the hanger.
❹ Fit claw on Ⓑ part.
hanger
❸ Put the housing under Ⓐ part.
❻ Fit projaction on Ⓓ part.
housing
Ⓒ part
❽ Hold the hanger by bending the claw.
Ⓓ part
Ⓐ part
Ⓑ part

ARM (SUCTION)

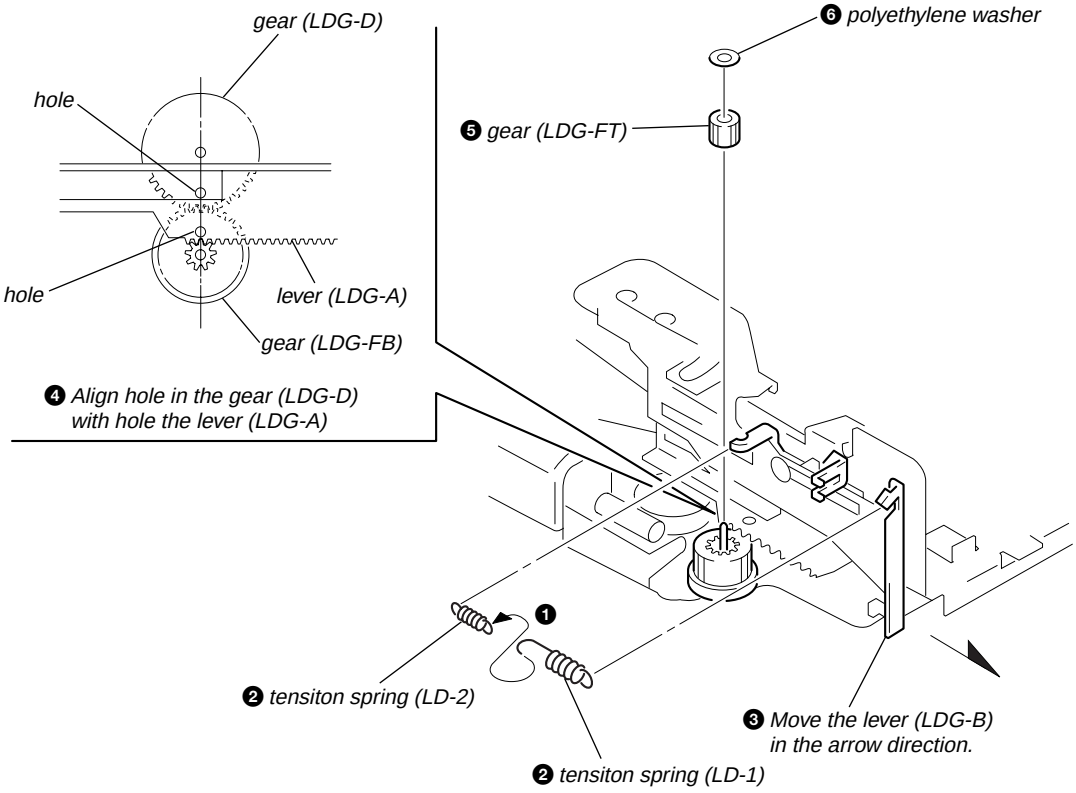


MC-Service

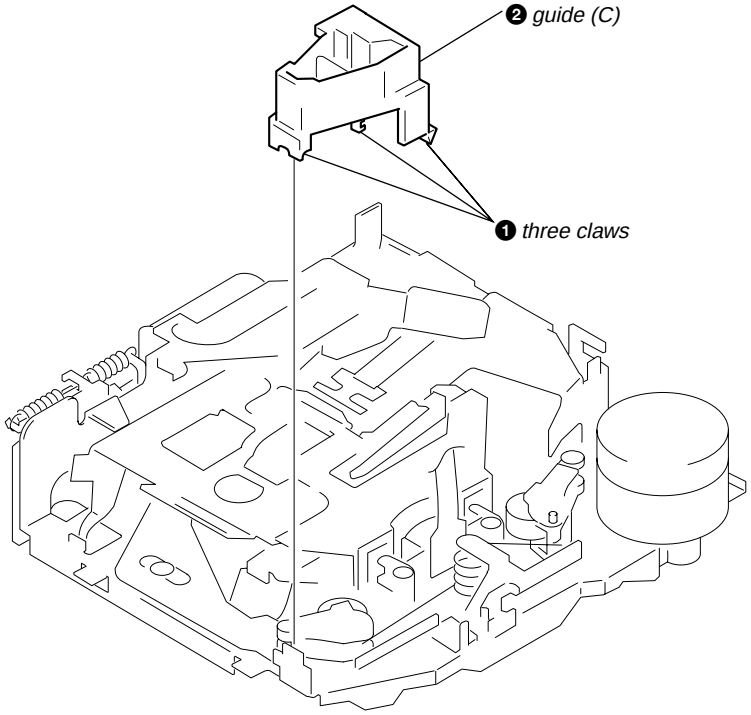
LEVER (LDG-A) / (LDG-B)


shaft Ⓐ
shaft Ⓑ
shaft Ⓒ
❶ Fit the lever (LDG-A) on shafts Ⓐ – Ⓒ and install it.
shaft Ⓐ
shaft Ⓑ
❸ type-E stop ring 2.0
❷ Fit the lever (LDG-B) on shafts Ⓐ and Ⓑ and install it.

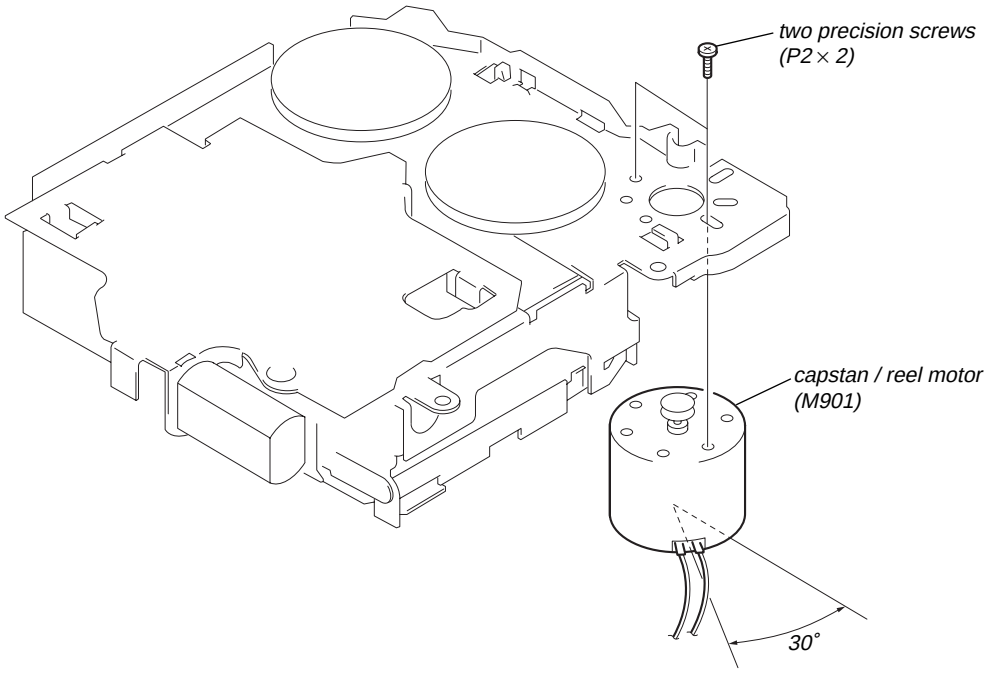
GEAR (LDG-FT)



GUIDE (C)



MOUNTING POSITION OF CAPSTAN / REEL MOTOR (M901)



SECTION 4
MECHANICAL ADJUSTMENTS

1. Clean the following parts with a denatured-alcohol-moistene swab:
   playback head pinch roller
   rubber belt capstan
   idler
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the power supply voltage unless otherwise noted.

• Torque Measurement

Mode	Torque Meter	Meter Reading
Forward	CQ-102C	30 – 65 g•cm (0.42 – 0.90 oz·inch)
Forward Back Tension	CQ-102C	0.5 – 4.5 g•cm (0.01 – 0.06 oz·inch)
Reverse	CQ-102RC	30 – 65 g•cm (0.42 – 0.90 oz·inch)
Reverse Back Tension	CQ-102RC	0.5 – 4.5 g•cm (0.01 – 0.06 oz·inch)
FF, REW	CQ-201B	60 – 200 g•cm (0.83 – 2.78 oz·inch)

• Tape Tension Measurement

Mode	Tension Meter	Meter Reading
Forward	CQ-403A	more than 90 g (more than 3.18 oz)
Reverse	CQ-403R	more than 90 g (more than 3.18 oz)

SECTION 5
ELECTRICAL ADJUSTMENTS

TEST MODE

This set have the test mode function. In the test mode, FM Auto Scan/Stop Level and AM (MW) Auto Scan/Stop Level adjustments can be performed easier than it in ordinary procedure.

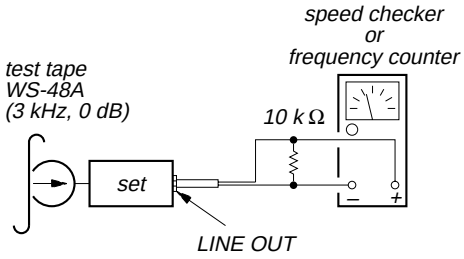
<Set the Test Mode>
1. Set the "power select" switch (S501) is "A" position.
2. Turn ON the regulated power supply. (All LEDs on the set lights up, and the clock is displayed)
   Note: Press the [OFF] button, if the clock is not displayed.
3. Push the preset [4] button.
4. Push the preset [5] button.
5. Press the preset [1] button for more than two seconds.
6. Then the display indicates all lights, the test mode is set.

<Release the Test mode>
1. Push the [OFF] button.
2. Return the "power select" switch (S501) to initially set position.

See the adjustment location from on page 16 for the adjustment.

TAPE DECK SECTION | 0 dB=0.775 V

Tape Speed Adjustment
Setting:



Procedure:
1. Put the set into the PB mode.
2. Adjust adjustment resistor for inside capstan motor so that the reading on the speed checker or frequency counter becomes in specification.

Specification: Constant speed

Speed checker	Frequency counter
–1.5 to +2.5%	2,955 to 3,075 Hz

Adjustment Location: See page 16.

TUNER SECTION

0 dB=1 µV

Cautions during repair
When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

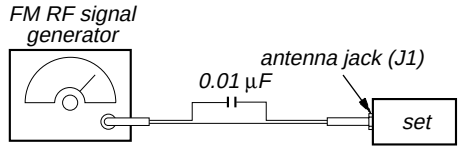
Note:
Adjust the tuner section in the sequence shown below.

1. FM Auto Scan/Stop Level Adjustment
2. FM Noise Focus Adjustment
3. FM Stereo Separation Adjustment
4. AM (MW) Auto Scan/Stop Level Adjustment

FM Auto Scan/Stop Level Adjustment

Setting:

SOURCE button: FM



Carrier frequency : 98.0 MHz
Output level : 22 dB (12.6 µV)
Mode : mono
Modulation : 1 kHz, 22.5 kHz deviation (30%)

Procedure:

1. Set to the test mode. (See page 13)
2. Push the SOURCE button and set to FM.

Display

3. Adjust with the volume RV2 on TU1 so that the "FM" indication turns to "FMI" indication on the display window.
   But, in case of already indicated "FMI", turn the RV2 so that put out light "I" indication and adjustment.

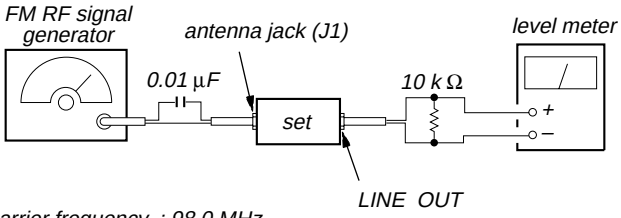
Display

Adjustment Location: See page 16.

FM Noise Focus Adjustment

Setting:

SOURCE button: FM



Carrier frequency : 98.0 MHz
Output level : 60 dB (1 mV)
Mode : mono
Modulation : 1 kHz, 75 kHz deviation (100%)

Procedure:

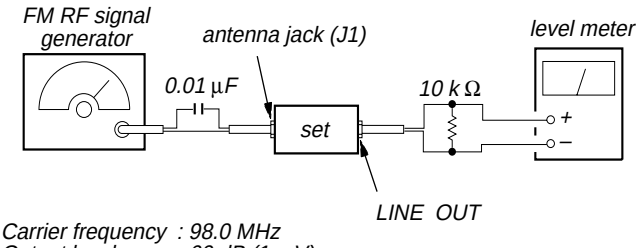
1. Tune the 98.0 MHz.
2. The then output level is supposing that (A) dB.
3. Adjust with the volume RV3 on TU1 so that the output level is (A) –32 ± 2 dB then signal generator input set to –20 dB.

Adjustment Location: See page 16.

FM Stereo Separation Adjustment

Setting:

SOURCE button: FM



Carrier frequency : 98.0 MHz
Output level : 60 dB (1 mV)
Mode : mono
Modulation : 1 kHz, 75 kHz deviation (100%)

Procedure:

FM Stereo signal generator output channel	Level meter connection	Level meter reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV4 on TU1 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV4 on TU1 for minimum reading.

L-CH Stereo separation: Ⓐ-Ⓑ
R-CH Stereo separation: Ⓒ-Ⓓ
The separations of both channels should be equal.

Specification: Separation more than 30 dB

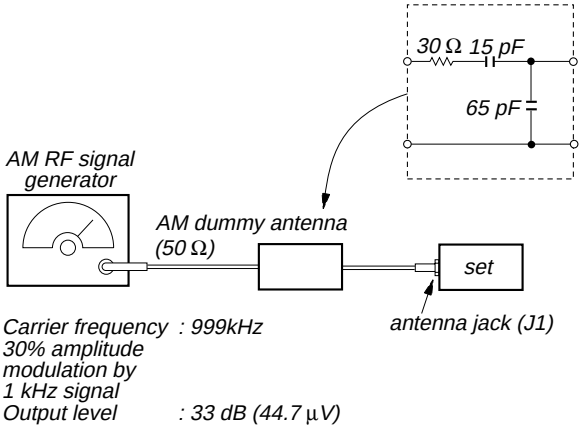
Adjustment Location: See page 16.

AM (MW) Auto Scan/Stop Level Adjustment

Make this adjustment after "FM Auto Scan/Stop Level Adjustment".

Setting:

SOURCE and MODE button: MW

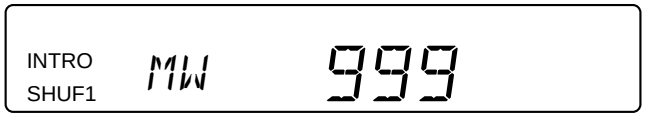


Carrier frequency : 999kHz
30% amplitude modulation by 1 kHz signal
Output level : 33 dB (44.7 µV)

Procedure:

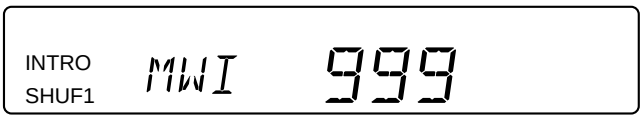
1. Set to the test mode. (See page 13)
2. Push the SOURCE button and set to FM.
3. Push the MODE button and set to MW.

Display



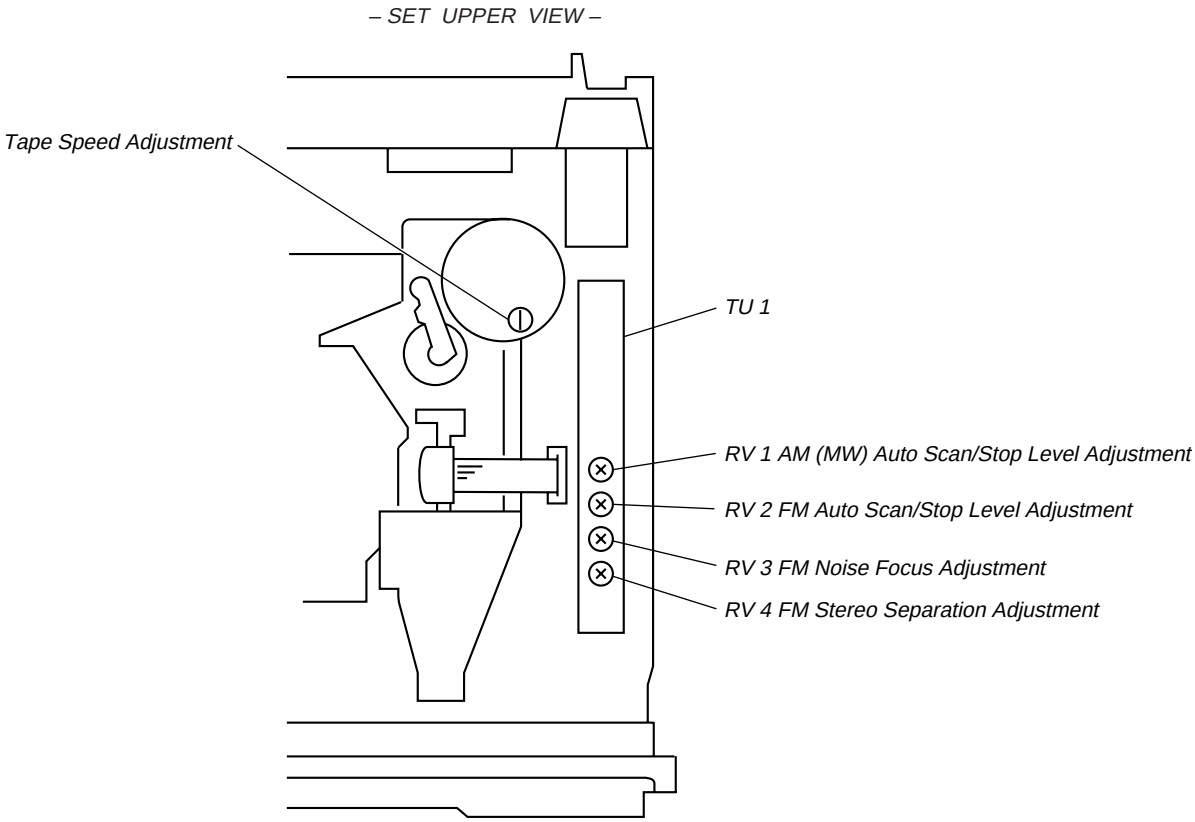
4. Adjust with the volume RV1 on TU1 so that the "MW" indication turns to "MWI" indication on the display window.
   But, in case of already indicated "MWI", turn the RV1 so that put out light "I" indication and adjustment.

Display



Adjustment Location: See page 16.

Adjustment Location:


– SET UPPER VIEW –
Tape Speed Adjustment
TU 1
RV 1 AM (MW) Auto Scan/Stop Level Adjustment
RV 2 FM Auto Scan/Stop Level Adjustment
RV 3 FM Noise Focus Adjustment
RV 4 FM Stereo Separation Adjustment

SECTION 6
DIAGRAMS

6-1. IC PIN FUNCTION DESCRIPTION

• MAIN BOARD IC501 μPD17708GC-545-3B9 (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Function
1	ILLIN	I	Dimmer detection signal input terminal Dimmer is present at input of "L" (fixed at "L")
2	POS3	I	Tape position detect input from tape operation switch on the mechanism block
3	POS2	I	
4	POS0	I	
5	POS1	I	
6	TAPEON	O	Tape system power supply on/off control signal output terminal "H": tape on
7	CM ON	O	Capstan/reel motor (M901) drive signal output terminal "H": motor on
8	LM LOD	O	Loading/tape operation motor control signal output to the MM1322XFBE (IC351) (For the loading direction and forward side operation) *1
9	LM EJ	O	Loading/tape operation motor control signal output to the MM1322XFBE (IC351) (For the eject direction and reverse side operation) *1
10	TUNON	O	Tuner system power supply on/off control signal output to the BA3918 (IC611) "H": tuner on
11	FM ON	O	FM system power supply on/off control signal output to the BA3918 (IC611) "H": FM on
12	PW ON	O	Main system power supply on/off control signal output to the BA3918 (IC611) "H": power on
13	MUT	O	Line muting control signal output terminal "H": line muting on
14	VOLCE	O	Chip enable signal output to the electrical volume (IC331)
15	VOLCKO	O	Serial data transfer clock signal output to the electrical volume (IC331)
16	VOLSO	O	Serial data output to the electrical volume (IC331)
17	AMPON	O	Standby control signal output to the power amplifier (IC751) "L": standby
18	$\overline{\text{AMPMUT}}$	O	Muting control signal output to the power amplifier (IC751) "L": muting on
19	$\overline{\text{DX}}$/LO	O	Local/DX selection signal output to the FM/AM tuner unit (TU1) "L": DX, "H": local
20	$\overline{\text{AM MONO}}$	O	AM forced monaural signal output terminal Not used (open)
21	GND	—	Ground terminal
22	DSTSEL	I	Destination setting terminal (Fixed at "L" in this set)
23	DBASIN	I	D-BASS switch (SW951) input (A/D input)
24	KEYIN1	I	Key input terminal (A/D input) LSW921 to LSW927 (⏏, INTRO 1, REPEAT 2, 3, BL. SKIP 6, ATA 5, 4 keys input)
25	KEYIN0	I	Key input terminal (A/D input) LSW901 to LSW909, 911, 912, 930 (OFF, SOURCE, MODE ◀I▶, + ▶▶I ▶▶ SEEK AMS, I◀◀ ◀◀ – SEEK AMS, VOLUME –, SEL, VOLUME +, MUTE , BTM, LCL, DSPL keys input)
26	RC IN0	I	Rotary remote commander shift key A/D input terminal
27	VSM	I	FM and AM signal meter voltage detection input from the FM/AM tuner unit (TU1)
28	AMIFIN	I	AM intermediate frequency detection signal input from the FM/AM tuner unit (TU1)
29	FMIFIN	I	FM intermediate frequency detection signal input from the FM/AM tuner unit (TU1)
30	VDD2	—	Power supply terminal (+5V)
31	FM OSC	I	FM local oscillator detection signal input from the FM/AM tuner unit (TU1)
32	AM OSC	I	AM local oscillator detection signal input from the FM/AM tuner unit (TU1)
33	GND	—	Ground terminal
34	NCO	O	Not used (open)
35	EO1	O	Main charge-pump control signal output terminal
36	TEST0	I	Setting terminal for the test (fixed at "L")
37	$\overline{\text{AM STIN}}$	I	Not used (open)
38	$\overline{\text{SEKOUT}}$	O	Seek control signal output to the FM/AM tuner unit (TU1)
39	$\overline{\text{MW}}$/SW	O	MW/SW selection signal output to the FM/AM tuner unit (TU1) "L": MW, "H": SW
40	BEEP	O	Beep sound output terminal
41	KEYACK	I	Input of acknowledge signal for the key entry Acknowledge signal is input to accept function and eject keys in the power off status On at input of "H"

Pin No.	Pin Name	I/O	Function
42	BU IN	I	Battery detect signal input terminal "H": battery on
43	MTLSEL	I/O	METAL control in/out terminal At initial mode: auto/manual mode selection input of METAL function "L": manual mode At manual mode: METAL on/off control signal output terminal ("H" output: METAL on) At auto mode: input at $\overline{\text{MTLIN}}$ (pin ⑤⑨) Not used this function in this set (fixed at "H")
44	DOLON	I/O	Dolby control in/out terminal At initial mode: valid/invalid selection input of dolby function ("L" input: valid) At normal mode: dolby on/off control signal output ("H" output : dolby on) Not used this function in this set (fixed at "H")
45	$\overline{\text{AMSIN}}$	I	Whether a music is present or not from CXA2509AQ (IC301) is detected at auto music sensor "L": music is present, "H": music is not present
46	$\overline{\text{ST}}$	I/O	Input of FM stereo detection signal from FM/AM tuner unit (TU1), and output of forced monaural control signal to FM/AM tuner unit (TU1) (Commonly used for stereo display input and forced monaural output) FM stereo detection at input of "L", forced monaural at output of "L"
47	$\overline{\text{AMS ON}}$	O	Tape auto music sensor control signal output to the CXA2509AQ (IC301) "L" is output to lower the gain for audio level at FF/REW
48	$\overline{\text{N}}$/R OUT	O	Forward/reverse direction control signal output to the CXA2509AQ (IC301) "L: forward direction, "H": reverse direction
49	TAPMUT	O	Tape muting on/off control signal output to the CXA2509AQ (IC301) "H": tape muting on
50	ILLON	O	Power supply on/off control signal output terminal at the illumination and liquid crystal display driver (IC901) "H": power on At power select switch (S501) on mode: "H" output at the accessory on At power select switch (S501) off mode: "H" output at the power on
51	SD IN	I	Station detector detect input from the FM/AM tuner unit (TU1) Stop level for SEEK, BTM, etc. is determined SD is present at input of "H"
52	$\overline{\text{NOSESW}}$	I	Detects the removal of the attaching and removing type front panel block "L": attaching
53	$\overline{\text{TELMUT}}$	I	Telephone muting signal input terminal At input of "L", the signal is attenuated by –20 dB
54	REL T	I	Reel table rotation detect signal input from the take-up and supply reel sensor
55	$\overline{\text{ACCIN}}$	I	Accessory detect signal input terminal "L": accessory on
56	$\overline{\text{TESTIN}}$	I	Setting terminal for the test mode "L": test mode (normally fixed at "H")
57	RC IN1	I	Rotary remote commander shift key A/D input terminal
58	PW SEL	I	Power select switch (S501) input terminal "L": position A (halt mode), "H": position B (operation mode)
59	$\overline{\text{MTLIN}}$	I	Input terminal to set whether the auto metal function is present or not "L": auto metal function is present (fixed at "H")
60	ADON	O	Power supply on/off control signal output for the A/D conversion
61	KEYSEL	I	Setting terminal for the key (fixed at "H")
62	SEKOUTSEL	I	Active selection terminal for the $\overline{\text{SEKOUT}}$ (pin ㊳) (fixed at "L")
63	COLORSEL	I	Setting terminal for the illumination color "L": amber, "H": green (fixed at "H")
64	LCDCE	O	Chip enable output to the liquid crystal display driver (IC901)
65	LCDCKO	O	Serial data transfer clock signal output to the liquid crystal display driver (IC901)
66	LCDSO	O	Serial data output to the liquid crystal display driver (IC901)
67	$\overline{\text{LCDINH}}$	O	Blank indicate control signal output to the liquid crystal display driver (IC901) "L": no display
68	UNICKI	I	Serial data reading clock signal input terminal Not used
69	UNISO	O	Serial data output terminal Not used (open)
70	UNISI	I	Serial data input terminal Not used (fixed at "L")
71	UNICKO	O	Serial data transfer clock signal output terminal Not used (open)

Pin No.	Pin Name	I/O	Function
72	$\overline{\text{BUSON}}$	O	Bus on/off control signal output terminal "L": bus on Not used (pull up)
73	$\overline{\text{SYSRST}}$	O	Reset signal output terminal "L": reset Not used (pull up)
74	VREG	O	CPU regulator output terminal Connected to capacitor
75	GND	—	Ground terminal
76	X OUT	O	Main system clock output terminal (4.5 MHz)
77	X IN	I	Main system clock input terminal (4.5 MHz)
78	CE	I	CPU chip enable signal input (fixed at "H")
79	VDD1	—	Power supply terminal (+5V)
80	$\overline{\text{RESET}}$	I	System reset signal input from the reset signal generator (IC551) and reset switch (S551) "L": reset "L" is input for several 100 msec after power on, then it changes to "H"

*1 loading/tape operation motor control

MODE / TERMINAL	STOP	LOADING/ FORWARD	EJECT/ REVERSE	BRAKE
LM LOD (pin ⑧)	"H"	"L"	"H"	"L"
LM EJ (pin ⑨)	"H"	"H"	"L"	"L"

6-2. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note on Printed Wiring Board:

- ⟜——: parts extracted from the component side.
- △ : internal component.
- ▒▒▒▒: Pattern from the side which enables seeing.

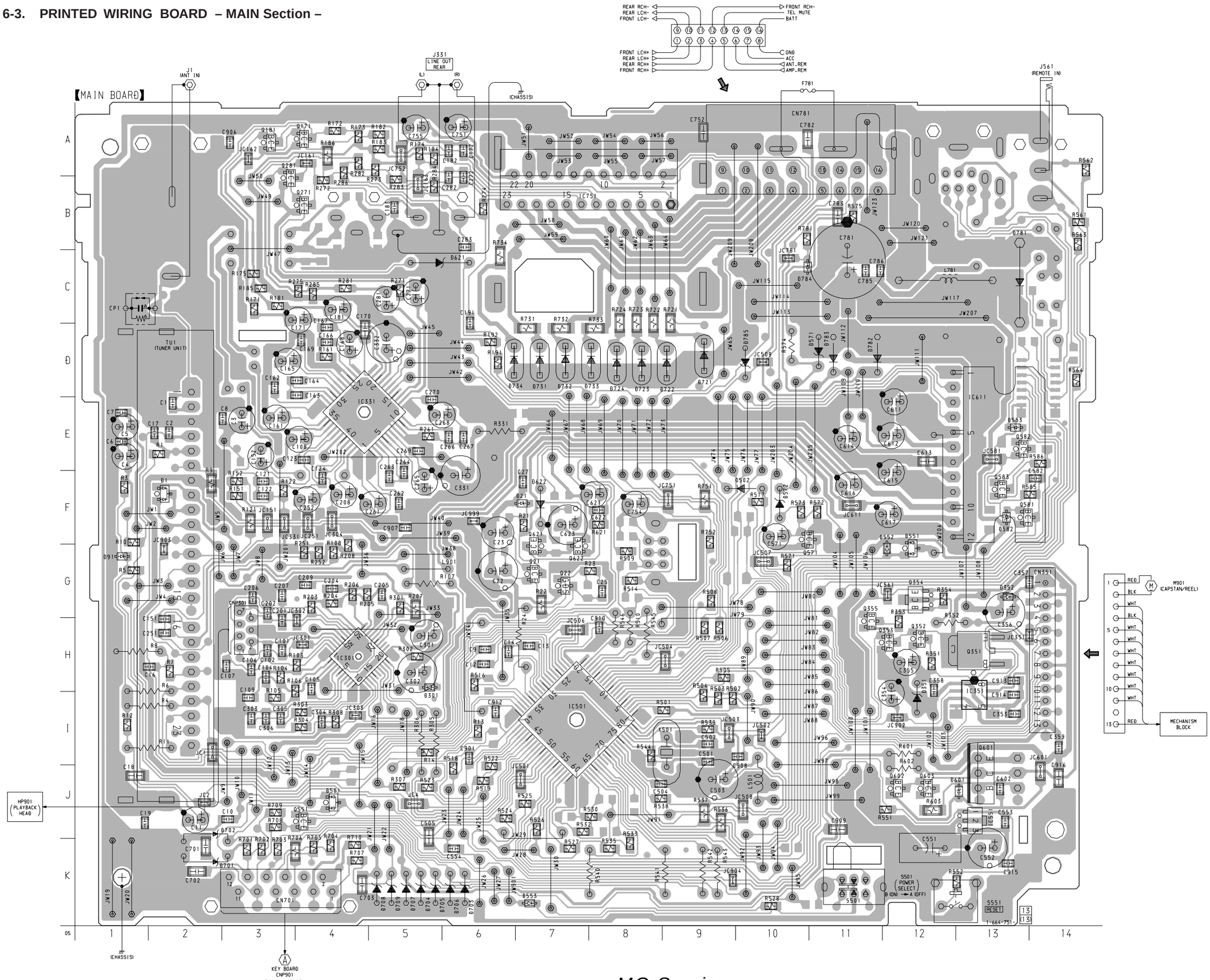
(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- B + : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM (MW)
  ⟨⟨ ⟩⟩ : TAPE PLAYBACK
  ∗ : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ➡ : AM (MW)
  ⇨ : TAPE PLAYBACK

6-3. PRINTED WIRING BOARD – MAIN Section –



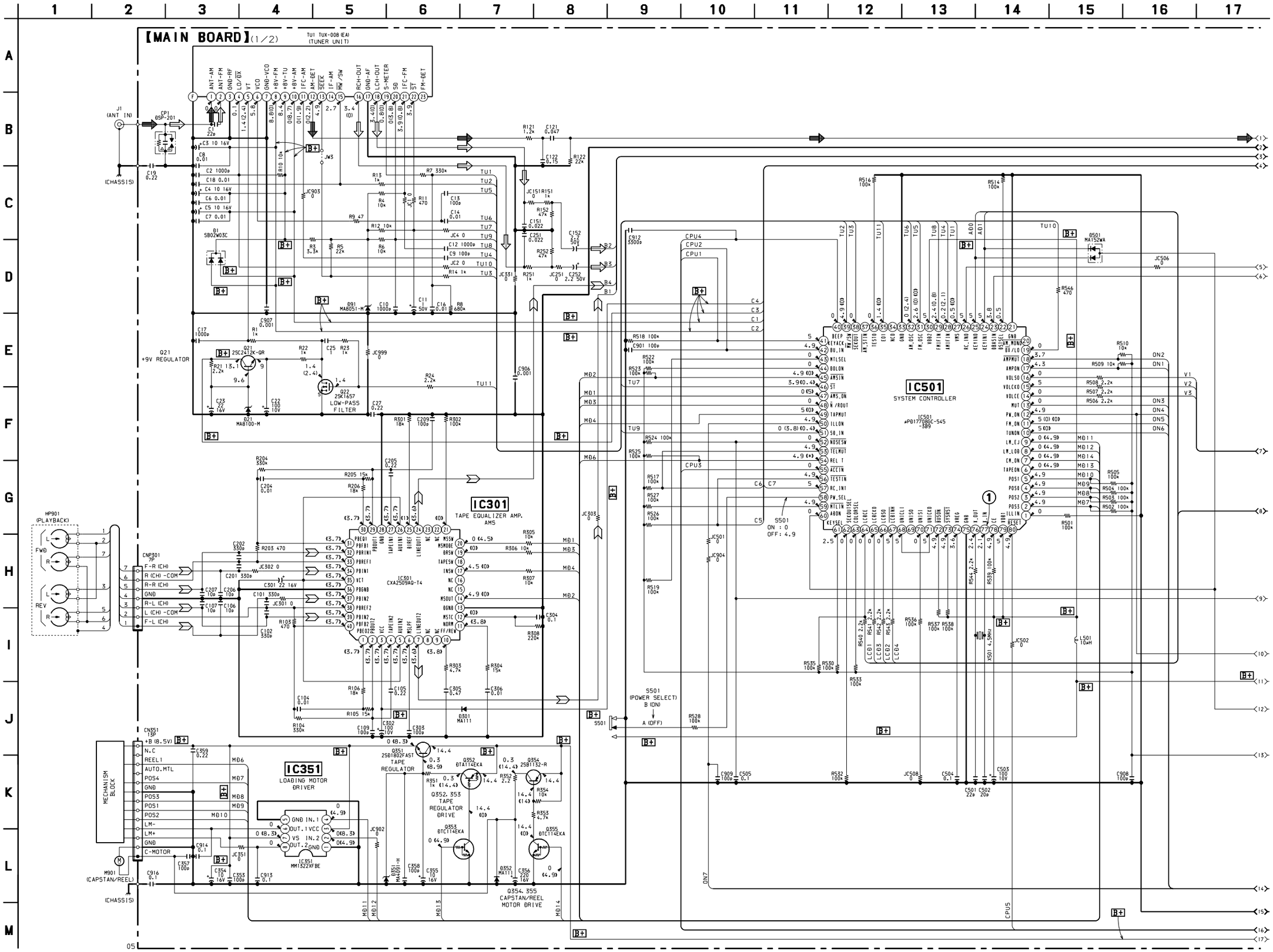
(Page 28)

MC-Service

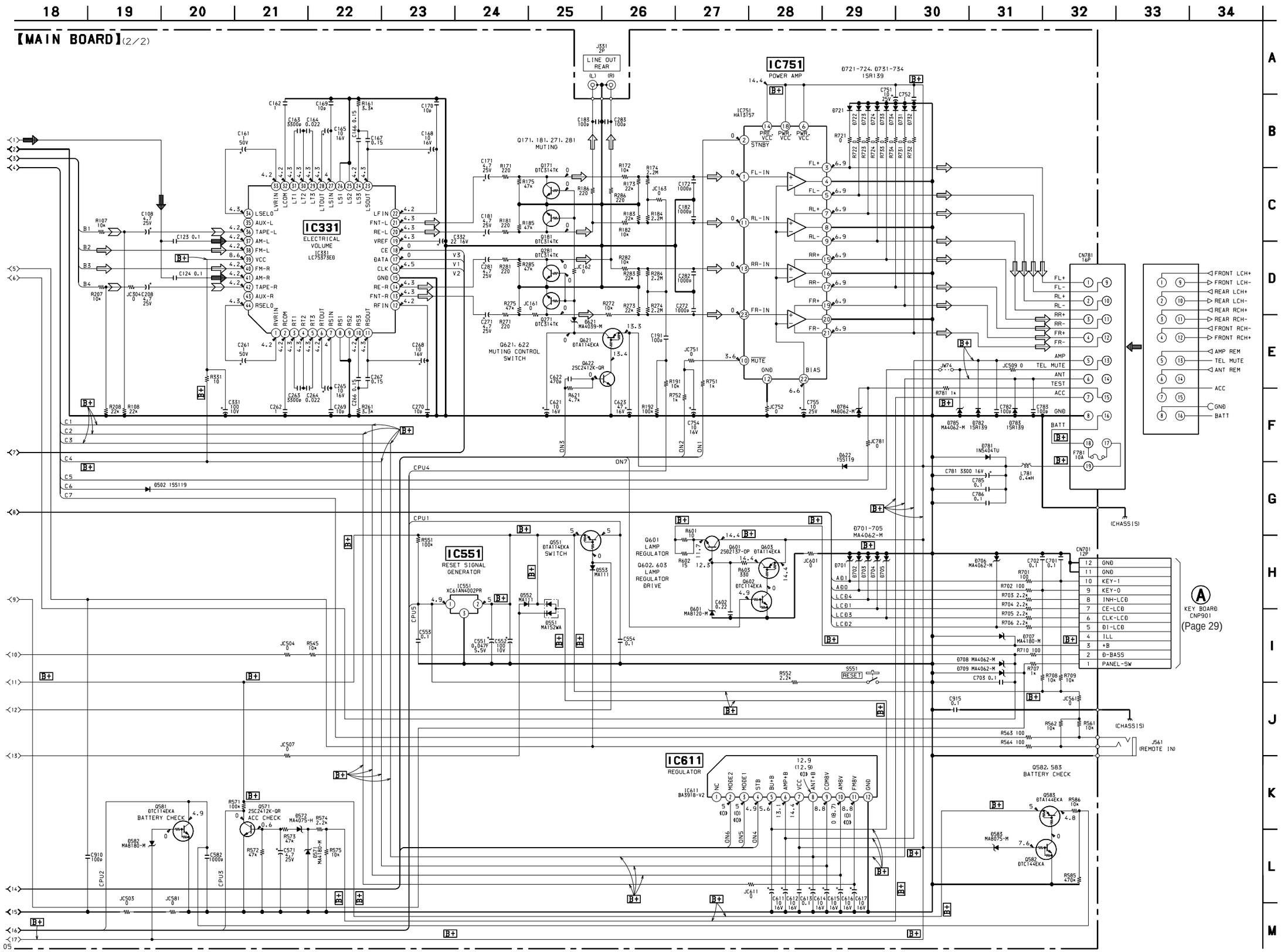
- **Semiconductor Location**

Ref. No.	Location
D1	F-2
D21	F-7
D91	G-1
D301	H-5
D351	I-12
D352	G-13
D501	J-4
D502	F-10
D551	G-12
D552	G-12
D553	K-7
D571	D-11
D572	F-10
D582	F-13
D583	E-13
D601	J-13
D621	C-6
D622	F-7
D701	K-2
D702	J-2
D703	K-6
D704	K-5
D705	K-5
D706	K-6
D707	K-5
D708	K-5
D709	K-5
D721	D-9
D722	D-9
D723	D-8
D724	D-8
D731	D-7
D732	D-7
D733	D-8
D734	D-6
D781	C-13
D782	D-11
D783	D-11
D784	C-10
D785	D-10
IC301	H-4
IC331	E-4
IC351	I-13
IC501	I-7
IC551	J-13
IC611	E-13
IC751	B-7
Q21	G-7
Q22	G-7
Q171	A-4
Q181	A-3
Q271	B-4
Q281	B-3
Q351	H-13
Q352	H-12
Q353	H-12
Q354	G-12
Q355	H-11
Q551	J-4
Q571	F-11
Q581	F-13
Q582	E-13
Q583	F-13
Q601	J-13
Q602	J-12
Q603	J-12
Q621	G-7
Q622	G-7

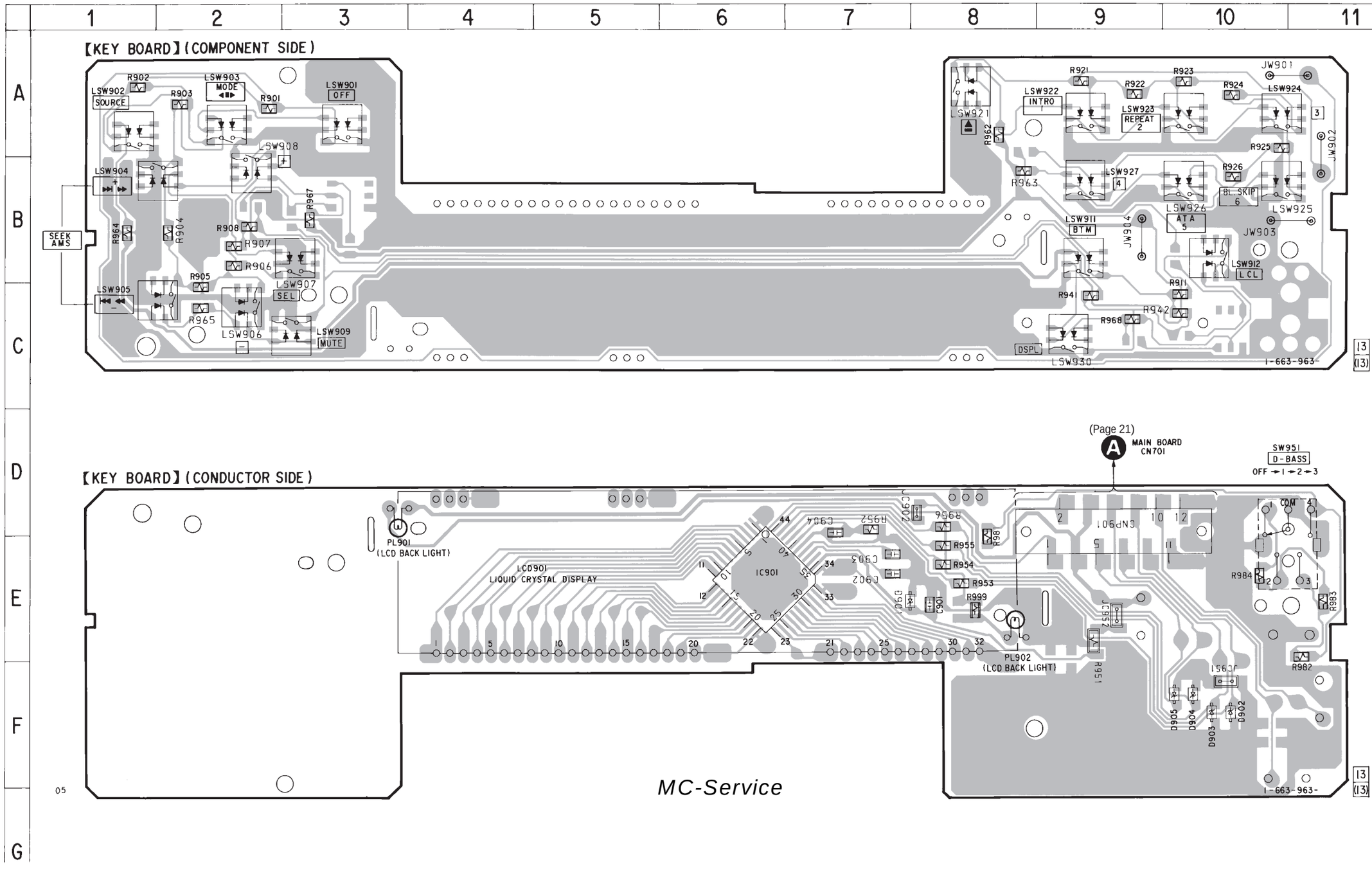
6-4. SCHEMATIC DIAGRAM – MAIN Section (1/2) – • See page 32 for Waveforms. • See page 31 for IC Block Diagrams.



6-5. SCHEMATIC DIAGRAM – MAIN Section (2/2) – • See page 31 for IC Block Diagrams.



6-6. PRINTED WIRING BOARD – PANEL Section –

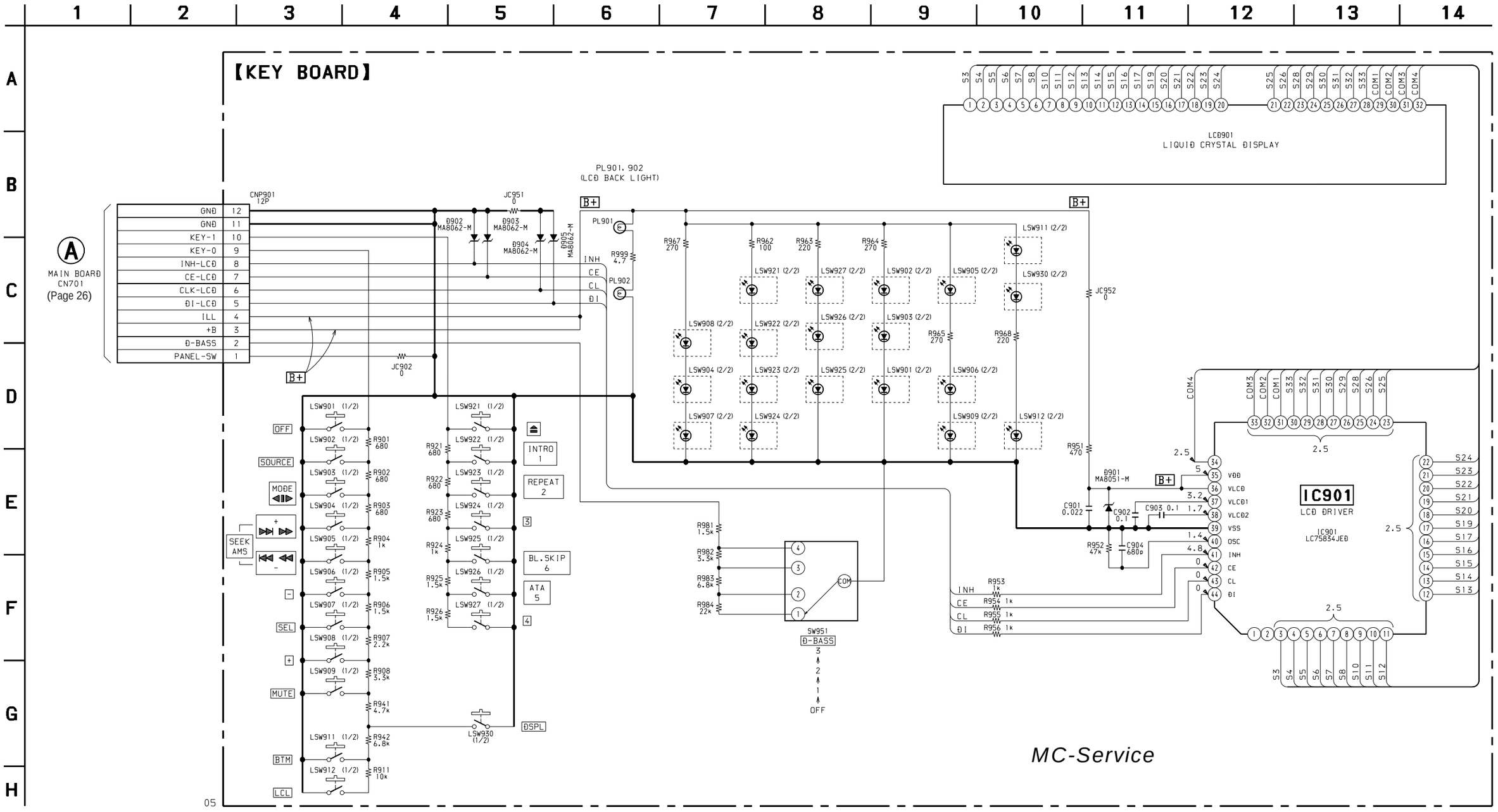


MC-Service

- **Semiconductor Location**

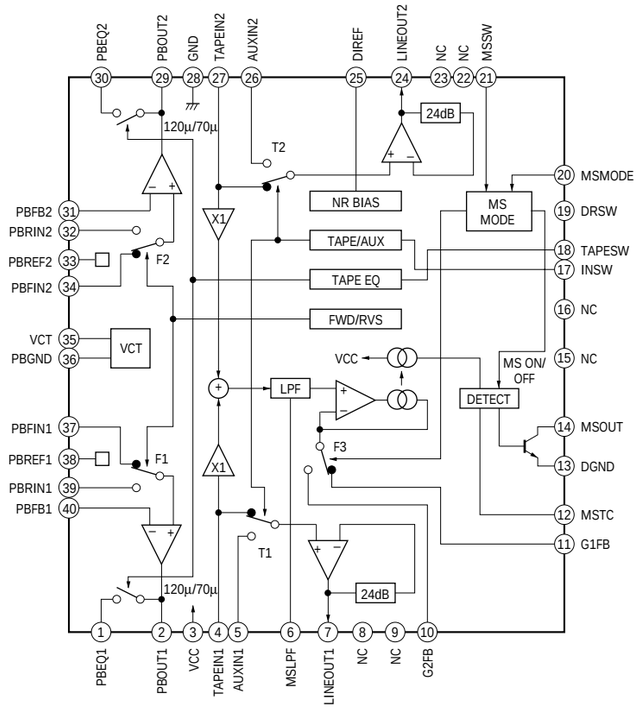
Ref. No.	Location
D901	E-7
D902	F-10
D903	F-10
D904	F-10
D905	F-10
IC901	E-6

6-7. SCHEMATIC DIAGRAM – PANEL Section –

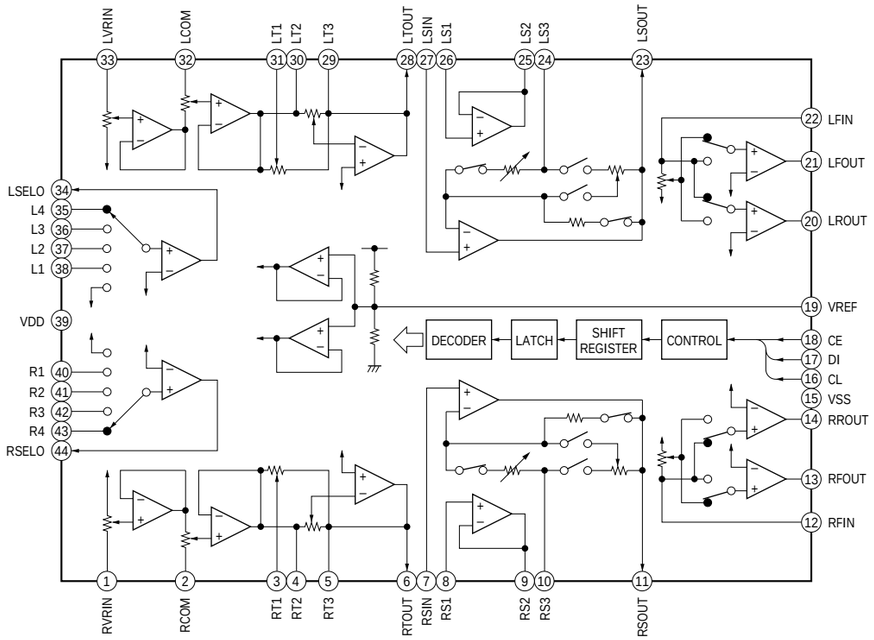


• IC Block Diagrams
– MAIN Section –

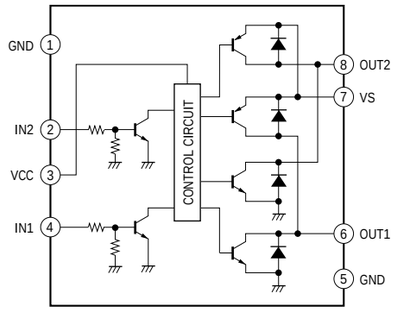
IC301 CXA2509AQ-T4



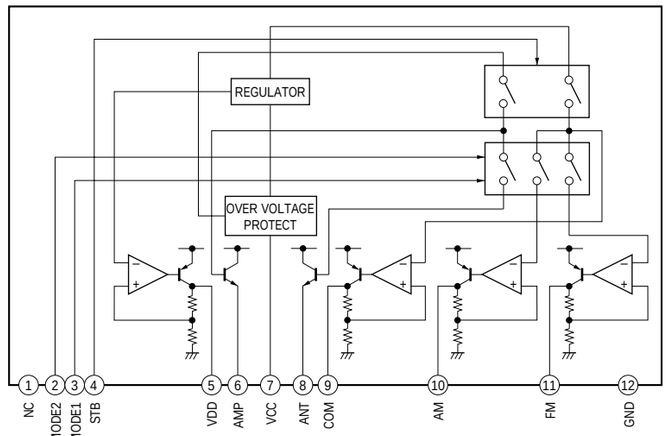
IC331 LC75373ED



IC351 MM1322XFBE

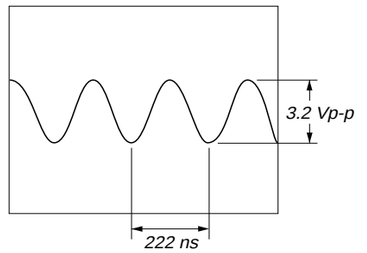


IC611 BA3918-V2



• Waveform
– MAIN Section –

❶ IC501 ⑰ (X-IN)



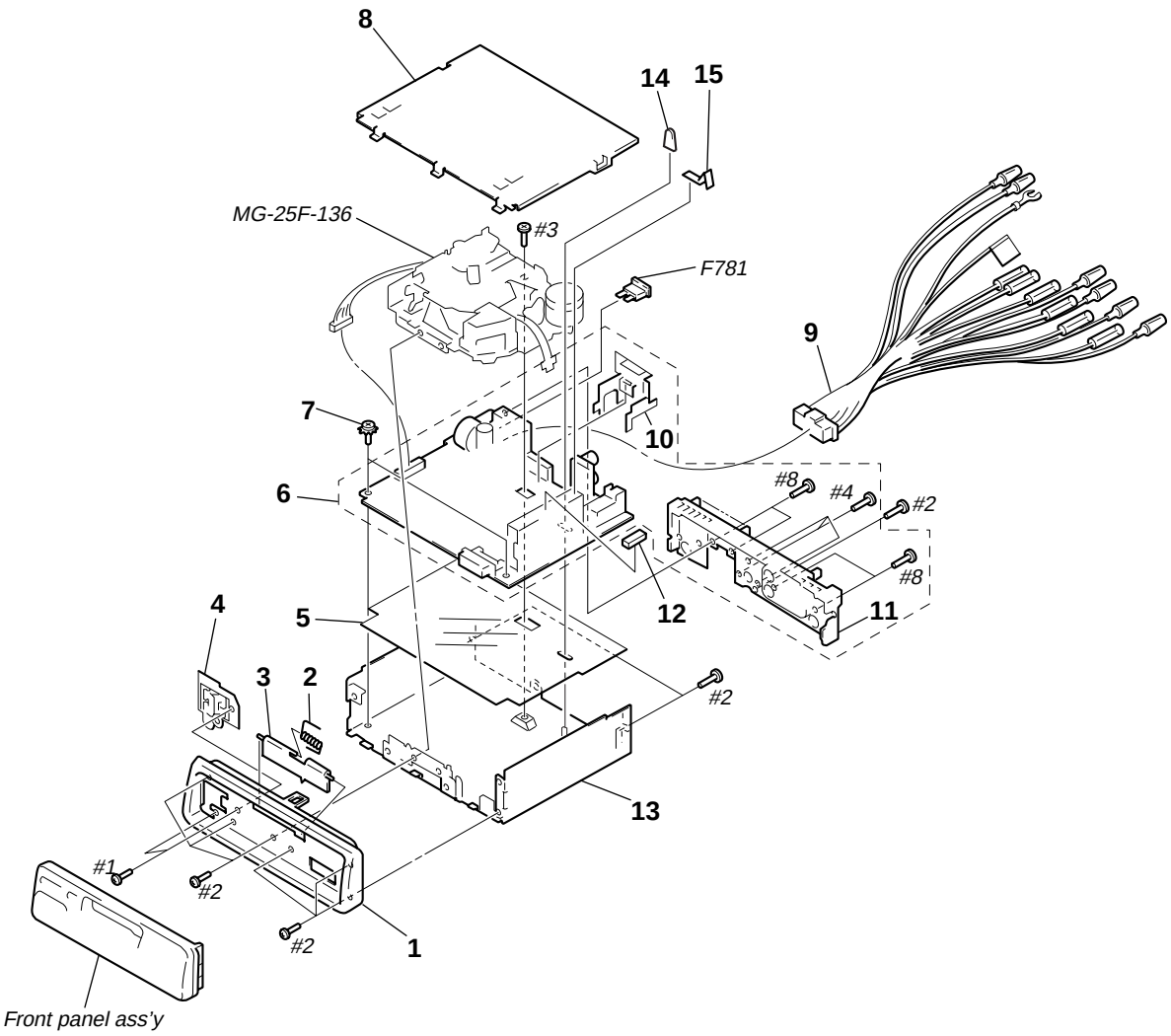
MC-Service

SECTION 7
EXPLODED VIEWS

NOTE:

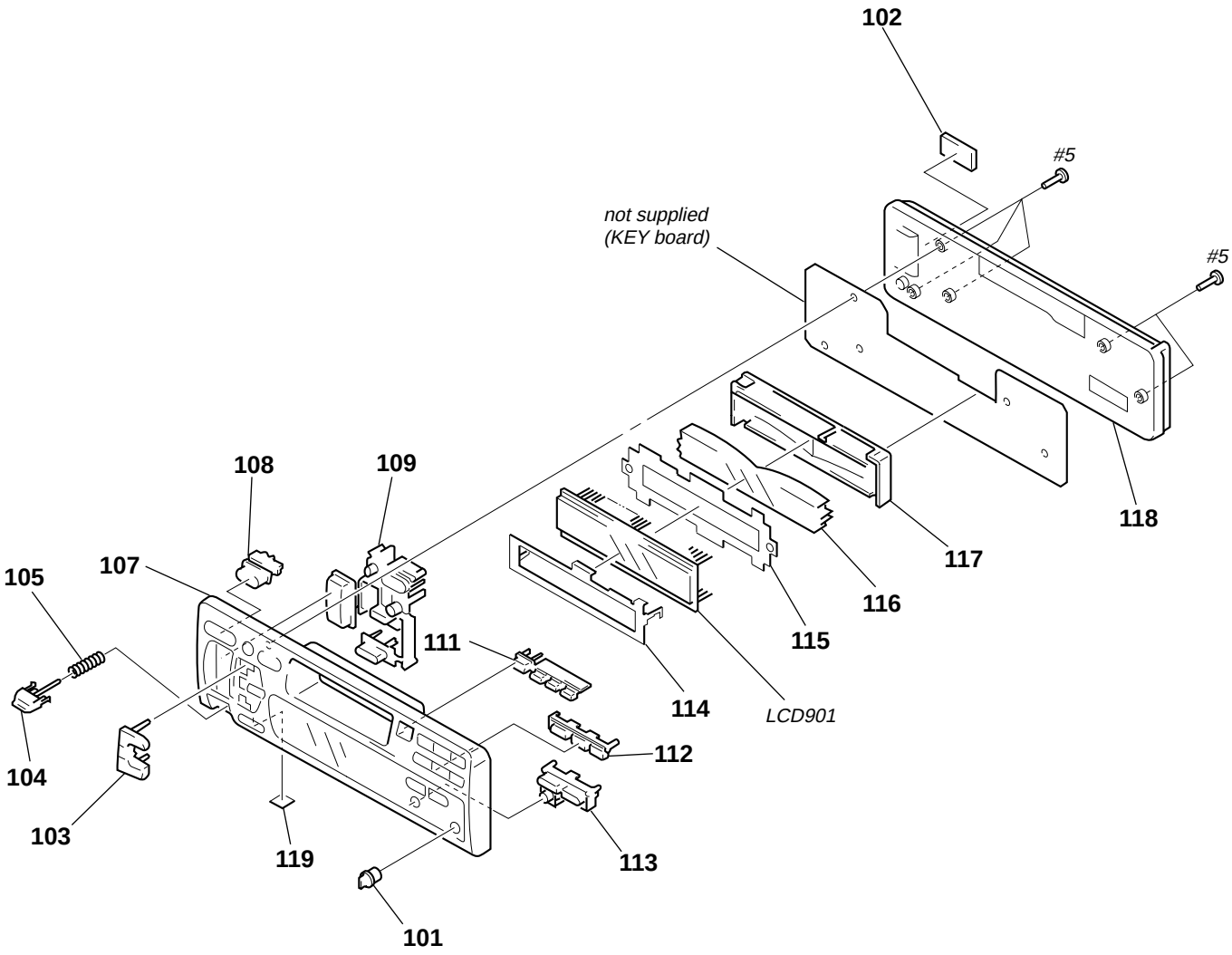
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

(1) CHASSIS SECTION



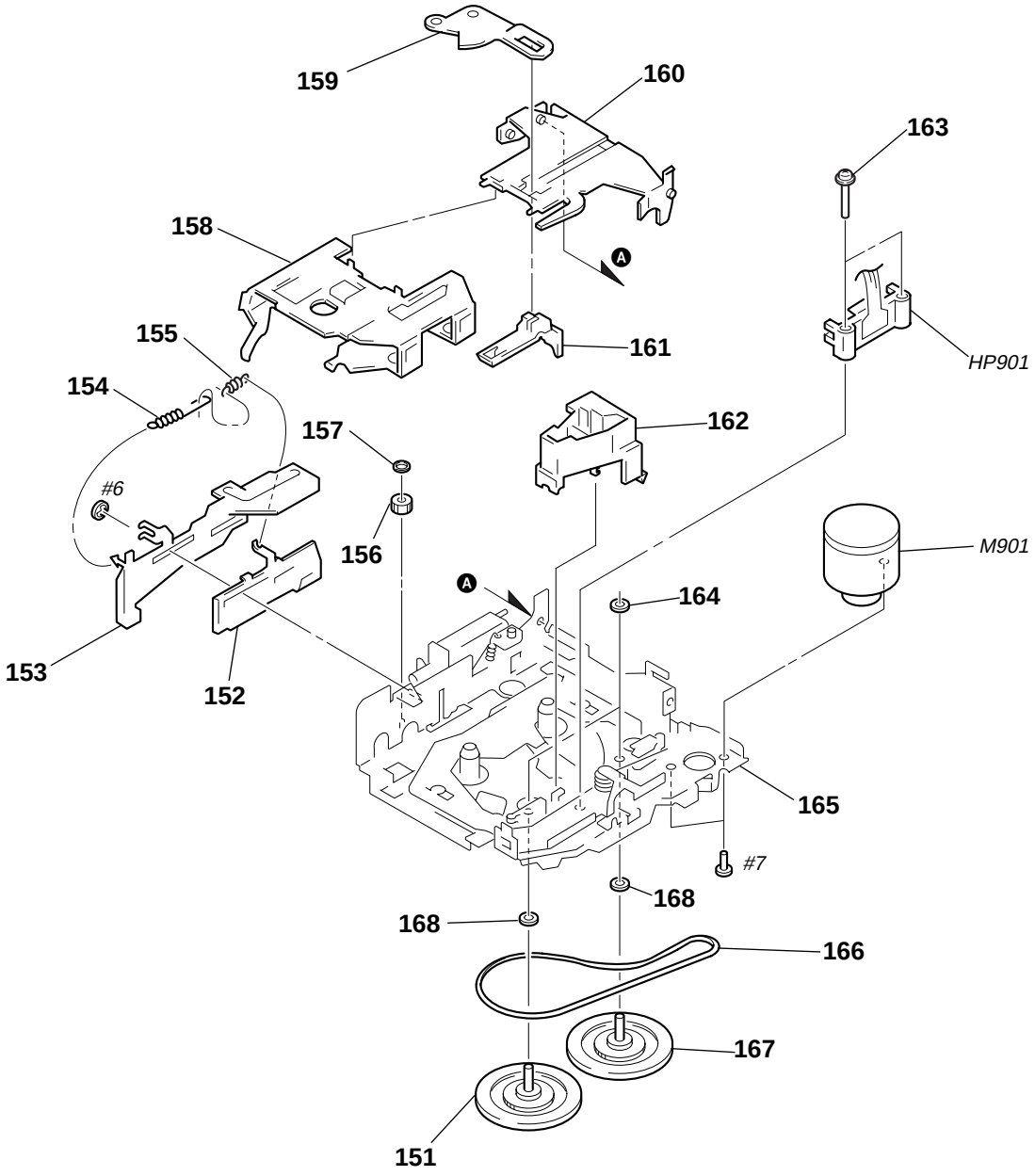
Ref. No.	Part No.	Description	Remark
1	3-009-294-01	PANEL, SUB	
2	3-935-003-01	SPRING, TORSION	
3	3-932-205-41	DOOR, CASSETTE	
4	X-3370-437-4	LOCK ASSY	
* 5	3-010-377-01	INSULATOR	
* 6	A-3317-303-A	MAIN BOARD, COMPLETE	
7	3-915-923-01	SCREW, GROUND POINT	
* 8	X-3373-270-1	COVER ASSY	
9	1-776-207-11	CORD (WITH CONNECTOR) (POWER)	
* 10	3-009-809-01	BRACKET (IC)	
* 11	3-009-815-01	HEAT SINK (BUS NON)	
12	3-935-014-01	CUSHION (U)	
* 13	3-009-813-01	CHASSIS	
14	3-012-859-01	CAP (25), RUBBER	
15	3-937-650-01	PLATE (C), GROUND	
F781	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)	

(2) FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
101	3-009-301-01	BUTTON (BASS)	
102	3-015-036-01	CUSHION (BACK PANEL)	
103	3-016-924-01	BUTTON (L) (2) (+. –)	
104	3-009-304-01	BUTTON (RELEASE)	
105	3-932-475-01	SPRING (RELEASE)	
107	X-3373-660-1	PANEL SUB ASSY	
108	3-009-300-01	BUTTON (SOURCE)	
109	3-016-925-01	BUTTON (L) (3)	
		(+▶▶I ▶▶. SEEK AMS. I◀◀ ◀◀ –. ●. OFF. SEL. MUTE)	
111	3-016-927-01	BUTTON (1-3) (⏏. 1. 2. 3)	
112	3-016-928-11	BUTTON (4-6) (4. 5. 6)	
113	3-016-930-01	BUTTON (R) (3) (BTM. LCL. ●)	
* 114	3-010-282-01	PLATE (LCD), GROUND	
* 115	3-009-305-01	SHEET (REFLECTOR)	
* 116	3-009-302-01	PLATE (LCD), LIGHT GUIDE	
* 117	3-009-303-02	HOLDER (LCD)	
118	3-010-519-01	PANEL, FRONT BACK	
119	3-014-602-11	SPACER (A)	
LCD901	1-801-588-11	DISPLAY PANEL, LIQUID CRYSTAL	

(3) MECHANISM DECK SECTION (MG-25F-136)



Ref. No.	Part No.	Description	Remark
151	A-3291-667-A	CLUTCH (FR) ASSY	
* 152	3-019-130-01	LEVER (LDG-A)	
* 153	3-019-131-01	LEVER (LDG-B)	
154	3-020-539-01	SPRING (LD-1), TENSION	
155	3-020-540-01	SPRING (LD-2), TENSION	
156	3-020-542-01	GEAR (LOADING FT)	
157	3-341-753-11	WASHER, POLYETHYLENE	
158	3-020-533-01	HOUSING	
* 159	3-020-532-01	ARM (SUCTION)	
160	3-020-534-01	HANGER	
161	3-933-346-01	CATCHER	
162	3-933-344-01	GUIDE (C)	
163	3-014-798-01	SCREW (HEAD), SPECIAL	
164	3-364-151-01	WASHER	
165	A-3301-267-A	CHASSIS ASSY (G)	
166	3-017-302-01	BELT (25)	
167	3-936-853-01	FLYWHEEL (F)	
168	3-701-437-21	WASHER	
HP901	1-500-157-21	HEAD, MAGNETIC (PLAYBACK)	
M901	A-3291-665-A	MOTOR ASSY, MAIN (CAPSTAN/REEL)	

KEY

SECTION 8
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
		KEY BOARD			
		*********			
*	3-009-302-01	PLATE (LCD), LIGHT GUIDE			
*	3-009-303-02	HOLDER (LCD)			
*	3-009-305-01	SHEET (REFLECTOR)			
*	3-010-282-01	PLATE (LCD), GROUND			
		< CAPACITOR >			
C901	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C902	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C903	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C904	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
		< CONNECTOR >			
CNP901	1-764-423-11	PIN, CONNECTOR 12P			
		< DIODE >			
D901	8-719-420-90	DIODE MA8051-M			
D902	8-719-422-64	DIODE MA8062-M			
D903	8-719-422-64	DIODE MA8062-M			
D904	8-719-422-64	DIODE MA8062-M			
D905	8-719-422-64	DIODE MA8062-M			
		< IC >			
IC901	8-759-443-68	IC LC75834JED			
		< SHORT >			
JC902	1-216-295-00	SHORT	0		
JC951	1-216-296-00	SHORT	0		
JC952	1-216-296-00	SHORT	0		
		< LIQUID CRYSTAL DISPLAY >			
LCD901	1-801-588-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< SWITCH >			
LSW901	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (OFF)			
LSW902	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (SOURCE)			
LSW903	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (MODE ◀II▶)			
LSW904	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (+ ▶▶I ▶▶)			
LSW905	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (I◀◀ ◀◀ –)			
LSW906	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (–)			
LSW907	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (SEL)			
LSW908	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (+)			
LSW909	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (MUTE)			
LSW911	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (BTM)			
LSW912	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (LCL)			
LSW921	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (⏏)			
LSW922	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (1, INTRO)			
LSW923	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (2, REPEAT)			
LSW924	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (3)			
LSW925	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (6, BL.SKIP)			
LSW926	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (5, ATA)			
LSW927	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (4)			
LSW930	1-762-619-11	SWITCH, KEY BOARD (WITH LED) (DSPL)			
		< PILOT LAMP >			
PL901	1-517-633-21	LAMP, PILOT (LCD BACK LIGHT)			
PL902	1-517-633-21	LAMP, PILOT (LCD BACK LIGHT)			
		< RESISTOR >			
R901	1-216-647-11	METAL CHIP	680	0.5%	1/10W
R902	1-216-647-11	METAL CHIP	680	0.5%	1/10W
R903	1-216-647-11	METAL CHIP	680	0.5%	1/10W
R904	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R905	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R906	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R907	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R908	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W
R911	1-208-806-11	RES, CHIP	10K	0.5%	1/10W
R921	1-216-647-11	METAL CHIP	680	0.5%	1/10W
R922	1-216-647-11	METAL CHIP	680	0.5%	1/10W
R923	1-216-647-11	METAL CHIP	680	0.5%	1/10W
R924	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R925	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R926	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R941	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R942	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W
R951	1-216-190-00	RES, CHIP	470	5%	1/8W
R952	1-216-089-00	RES, CHIP	47K	5%	1/10W
R953	1-216-049-11	RES, CHIP	1K	5%	1/10W
R954	1-216-049-11	RES, CHIP	1K	5%	1/10W
R955	1-216-049-11	RES, CHIP	1K	5%	1/10W
R956	1-216-049-11	RES, CHIP	1K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R962	1-216-025-00	RES, CHIP	100	5%	1/10W
R963	1-216-033-00	METAL CHIP	220	5%	1/10W
R964	1-216-035-00	METAL CHIP	270	5%	1/10W
R965	1-216-035-00	METAL CHIP	270	5%	1/10W
R967	1-216-035-00	METAL CHIP	270	5%	1/10W
R968	1-216-033-00	METAL CHIP	220	5%	1/10W
R981	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R982	1-208-449-41	RES, CHIP	3.3K	2%	1/10W
R983	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W
R984	1-216-081-00	METAL CHIP	22K	5%	1/10W
R999	1-216-308-00	METAL CHIP	4.7	5%	1/10W
		< SWITCH >			
SW951	1-762-937-11	SWITCH, ROTARY (D-BASS)			
**********					
*	A-3317-303-A	MAIN BOARD, COMPLETE			
		**********			
*	3-009-809-01	BRACKET (IC)			
*	3-009-815-01	HEAT SINK (BUS NON)			
	7-685-793-04	SCREW +PTT 2.6X8 (S)			
	7-685-794-09	SCREW +PTT 2.6X10 (S)			
		< CAPACITOR >			
C1	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C2	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C3	1-124-233-11	ELECT	10uF	20%	16V
C4	1-124-233-11	ELECT	10uF	20%	16V
C5	1-124-233-11	ELECT	10uF	20%	16V
C6	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V
C7	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V
C8	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V
C9	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C10	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C11	1-126-160-11	ELECT	1uF	20%	50V
C12	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C13	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C14	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V
C16	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V
C17	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C18	1-163-059-00	CERAMIC CHIP	0.01uF	10%	50V
C19	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C22	1-124-584-00	ELECT	100uF	20%	10V
C23	1-124-234-00	ELECT	22uF	20%	16V
C25	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C27	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C101	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C102	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C104	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V
C105	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C106	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C107	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C108	1-126-163-11	ELECT	4.7uF	20%	50V
C109	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C121	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C122	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C123	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C124	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V

Ref. No.	Part No.	Description			Remark
C151	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C152	1-124-257-00	ELECT	2.2uF	20%	50V
C161	1-126-160-11	ELECT	1uF	20%	50V
C162	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C163	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C164	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C165	1-124-233-11	ELECT	10uF	20%	16V
C166	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C167	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C168	1-124-233-11	ELECT	10uF	20%	16V
C169	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C170	1-163-287-11	CERAMIC CHIP	10PF	5%	50V
C171	1-126-163-11	ELECT	4.7uF	20%	50V
C172	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C181	1-126-163-11	ELECT	4.7uF	20%	50V
C182	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C183	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C191	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C201	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C202	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C204	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V
C205	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C206	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C207	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C208	1-126-163-11	ELECT	4.7uF	20%	50V
C209	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C251	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C252	1-124-257-00	ELECT	2.2uF	20%	50V
C261	1-126-160-11	ELECT	1uF	20%	50V
C262	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C263	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C264	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C265	1-124-233-11	ELECT	10uF	20%	16V
C266	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C267	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C268	1-124-233-11	ELECT	10uF	20%	16V
C269	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C270	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C271	1-126-163-11	ELECT	4.7uF	20%	50V
C272	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C281	1-126-163-11	ELECT	4.7uF	20%	50V
C282	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C283	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C301	1-124-234-00	ELECT	22uF	20%	16V
C302	1-124-584-00	ELECT	100uF	20%	10V
C303	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C304	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C305	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C306	1-163-021-00	CERAMIC CHIP	0.01uF	10%	50V
C331	1-124-584-00	ELECT	100uF	20%	10V
C332	1-124-234-00	ELECT	22uF	20%	16V
C353	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C354	1-124-233-11	ELECT	10uF	20%	16V
C355	1-124-233-11	ELECT	10uF	20%	16V
C356	1-126-934-11	ELECT	220uF	20%	16V
C357	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C358	1-163-251-11	CERAMIC CHIP	100PF	5%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C359	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C501	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C502	1-163-234-11	CERAMIC CHIP	20PF	5%	50V
C503	1-124-584-00	ELECT	100uF	20%	10V
C504	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C505	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C551	1-125-701-11	DOUBLE LAYER	0.047F		5.5V
C552	1-124-584-00	ELECT	100uF	20%	10V
C553	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C554	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C571	1-126-163-11	ELECT	4.7uF	20%	50V
C582	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C602	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C611	1-124-233-11	ELECT	10uF	20%	16V
C612	1-124-233-11	ELECT	10uF	20%	16V
C613	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C614	1-124-233-11	ELECT	10uF	20%	16V
C615	1-124-233-11	ELECT	10uF	20%	16V
C616	1-124-233-11	ELECT	10uF	20%	16V
C617	1-124-233-11	ELECT	10uF	20%	16V
C621	1-124-233-11	ELECT	10uF	20%	16V
C622	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C623	1-124-589-11	ELECT	47uF	20%	16V
C701	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C702	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C703	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C751	1-126-096-11	ELECT	10uF	20%	35V
C752	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C754	1-124-233-11	ELECT	10uF	20%	16V
C755	1-126-096-11	ELECT	10uF	20%	35V
C781	1-126-936-11	ELECT	3300uF	20%	16V
C782	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C783	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C785	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C786	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C901	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C906	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C907	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C908	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C909	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C910	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C912	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C913	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C914	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C915	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C916	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
		< CONNECTOR >			
CNP301	1-766-260-11	CONNECTOR, FFC/FPC (ZIF) 7P			
* CN351	1-506-995-11	PIN, CONNECTOR (PC BOARD) 13P			
CN701	1-764-422-11	PLUG, CONNECTOR 12P			
CN781	1-774-701-11	PIN, CONNECTOR 16P			
		< CONPOSITION CIRCUIT BLOCK >			
CP1	1-519-504-11	GAP, DISCHARGE			

Ref. No.	Part No.	Description	Remark
		< DIODE >	
D1	8-719-991-65	DIODE SB02W03C	
D21	8-719-423-10	DIODE MA8100-M-TX	
D91	8-719-420-90	DIODE MA8051-M	
D301	8-719-404-49	DIODE MA111	
D351	8-719-035-91	DIODE MA4091-H (TA)	
D352	8-719-404-49	DIODE MA111	
D501	8-719-400-20	DIODE MA152WA	
D502	8-719-911-19	DIODE 1SS119	
D551	8-719-400-20	DIODE MA152WA	
D552	8-719-404-49	DIODE MA111	
D553	8-719-404-49	DIODE MA111	
D571	8-719-034-94	DIODE MA4180-M (QZ)	
D572	8-719-110-03	DIODE RD7.5ESB2	
D582	8-719-057-80	DIODE MA8160-M-TX	
D583	8-719-422-76	DIODE MA8075-M	
D601	8-719-423-32	DIODE MA8120-M	
D621	8-719-035-54	DIODE MA4039-M (TA)	
D622	8-719-911-19	DIODE 1SS119	
D701	8-719-035-74	DIODE MA4062-M (TA)	
D702	8-719-035-74	DIODE MA4062-M (TA)	
D703	8-719-035-74	DIODE MA4062-M (TA)	
D704	8-719-035-74	DIODE MA4062-M (TA)	
D705	8-719-035-74	DIODE MA4062-M (TA)	
D706	8-719-035-74	DIODE MA4062-M (TA)	
D707	8-719-034-94	DIODE MA4180-M (QZ)	
D708	8-719-035-74	DIODE MA4062-M (TA)	
D709	8-719-035-74	DIODE MA4062-M (TA)	
D721	8-719-970-02	DIODE 1SR139-400	
D722	8-719-970-02	DIODE 1SR139-400	
D723	8-719-970-02	DIODE 1SR139-400	
D724	8-719-970-02	DIODE 1SR139-400	
D731	8-719-970-02	DIODE 1SR139-400	
D732	8-719-970-02	DIODE 1SR139-400	
D733	8-719-970-02	DIODE 1SR139-400	
D734	8-719-970-02	DIODE 1SR139-400	
D781	8-719-049-38	DIODE 1N5404TU	
D782	8-719-970-02	DIODE 1SR139-400	
D783	8-719-970-02	DIODE 1SR139-400	
D784	8-719-422-64	DIODE MA8062-M	
D785	8-719-035-74	DIODE MA4062-M (TA)	
		< IC >	
IC301	8-752-079-78	IC CXA2509AQ-T4	
IC331	8-759-443-67	IC LC75373ED	
IC351	8-759-395-97	IC MM1322XFBE	
IC501	8-759-462-38	IC uPD17708GC-545-3B9	
IC551	8-759-363-81	IC XC61AN4002PR	
IC611	8-759-347-49	IC BA3918-V2	
IC751	8-759-490-48	IC HA13157	
		< JACK >	
J1	1-764-808-21	JACK (ANT) (ANT IN)	
J331	1-774-698-11	JACK, PIN 2P (LINE OUT REAR)	
J561	1-566-822-41	JACK (REMOTE IN)	

Ref. No.	Part No.	Description		Remark
		< SHORT >		
JC1	1-216-296-00	SHORT	0	
JC2	1-216-295-00	SHORT	0	
JC4	1-216-296-00	SHORT	0	
JC151	1-216-296-00	SHORT	0	
JC161	1-216-295-00	SHORT	0	
JC162	1-216-295-00	SHORT	0	
JC163	1-216-296-00	SHORT	0	
JC251	1-216-296-00	SHORT	0	
JC301	1-216-295-00	SHORT	0	
JC302	1-216-295-00	SHORT	0	
JC303	1-216-295-00	SHORT	0	
JC304	1-216-296-00	SHORT	0	
JC331	1-216-296-00	SHORT	0	
JC351	1-216-295-00	SHORT	0	
JC501	1-216-296-00	SHORT	0	
JC502	1-216-295-00	SHORT	0	
JC503	1-216-296-00	SHORT	0	
JC504	1-216-296-00	SHORT	0	
JC506	1-216-296-00	SHORT	0	
JC507	1-216-296-00	SHORT	0	
JC508	1-216-296-00	SHORT	0	
JC509	1-216-295-00	SHORT	0	
JC561	1-216-295-00	SHORT	0	
JC581	1-216-296-00	SHORT	0	
JC601	1-216-296-00	SHORT	0	
JC611	1-216-296-00	SHORT	0	
JC751	1-216-296-00	SHORT	0	
JC752	1-216-296-00	SHORT	0	
JC781	1-216-295-00	SHORT	0	
JC902	1-216-295-00	SHORT	0	
JC903	1-216-295-00	SHORT	0	
JC904	1-216-295-00	SHORT	0	
JC999	1-216-295-00	SHORT	0	
		< COIL >		
L501	1-410-509-11	INDUCTOR	10uH	
L781	1-411-669-21	INDUCTOR	0.4mH	
		< TRANSISTOR >		
Q21	8-729-120-28	TRANSISTOR	2SC1623-L5L6	
Q22	8-729-021-94	TRANSISTOR	2SK1657-T1B	
Q171	8-729-920-21	TRANSISTOR	DTC314TKH04	
Q181	8-729-920-21	TRANSISTOR	DTC314TKH04	
Q271	8-729-920-21	TRANSISTOR	DTC314TKH04	
Q281	8-729-920-21	TRANSISTOR	DTC314TKH04	
Q351	8-729-015-11	TRANSISTOR	2SD1802FAST-TL	
Q352	8-729-027-23	TRANSISTOR	DTA114EKA-T146	
Q353	8-729-900-53	TRANSISTOR	DTC114EK	
Q354	8-729-106-60	TRANSISTOR	2SB1115A	
Q355	8-729-900-53	TRANSISTOR	DTC114EK	
Q551	8-729-027-23	TRANSISTOR	DTA114EKA-T146	
Q571	8-729-120-28	TRANSISTOR	2SC1623-L5L6	
Q581	8-729-900-53	TRANSISTOR	DTC114EK	
Q582	8-729-027-59	TRANSISTOR	DTC144EKA-T146	
Q583	8-729-027-38	TRANSISTOR	DTA144EKA-T146	
Q601	8-729-423-99	TRANSISTOR	2SD2137-OP	
Q602	8-729-900-53	TRANSISTOR	DTC114EK	
Q603	8-729-027-23	TRANSISTOR	DTA114EKA-T146	
Q621	8-729-027-23	TRANSISTOR	DTA114EKA-T146	
Q622	8-729-120-28	TRANSISTOR	2SC1623-L5L6	
		< RESISTOR >		
R1	1-216-049-11	RES, CHIP	1K 5% 1/10W	
R3	1-216-061-00	METAL CHIP	3.3K 5% 1/10W	
R4	1-249-429-11	CARBON	10K 5% 1/4W	
R5	1-216-081-00	METAL CHIP	22K 5% 1/10W	
R6	1-249-429-11	CARBON	10K 5% 1/4W	
R7	1-216-109-00	METAL CHIP	330K 5% 1/10W	
R8	1-247-899-11	CARBON	680K 5% 1/4W	
R9	1-216-166-00	RES, CHIP	47 5% 1/8W	
R10	1-216-073-00	METAL CHIP	10K 5% 1/10W	
R11	1-249-413-11	CARBON	470 5% 1/4W	
R12	1-216-073-00	METAL CHIP	10K 5% 1/10W	
R13	1-216-049-11	RES, CHIP	1K 5% 1/10W	
R14	1-216-049-11	RES, CHIP	1K 5% 1/10W	
R21	1-216-057-00	METAL CHIP	2.2K 5% 1/10W	
R22	1-216-198-00	RES, CHIP	1K 5% 1/8W	
R23	1-216-049-11	RES, CHIP	1K 5% 1/10W	
R24	1-249-421-11	CARBON	2.2K 5% 1/4W	
R103	1-216-041-00	METAL CHIP	470 5% 1/10W	
R104	1-216-109-00	METAL CHIP	330K 5% 1/10W	
R105	1-216-077-00	METAL CHIP	15K 5% 1/10W	
R106	1-216-079-00	METAL CHIP	18K 5% 1/10W	
R107	1-249-429-11	CARBON	10K 5% 1/4W	
R108	1-216-081-00	METAL CHIP	22K 5% 1/10W	
R121	1-216-200-11	RES, CHIP	1.2K 5% 1/8W	
R122	1-216-081-00	METAL CHIP	22K 5% 1/10W	
R151	1-216-049-11	RES, CHIP	1K 5% 1/10W	
R152	1-216-089-00	RES, CHIP	47K 5% 1/10W	
R161	1-216-061-00	METAL CHIP	3.3K 5% 1/10W	
R171	1-216-033-00	METAL CHIP	220 5% 1/10W	
R172	1-216-073-00	METAL CHIP	10K 5% 1/10W	
R173	1-216-081-00	METAL CHIP	22K 5% 1/10W	
R174	1-216-129-00	METAL CHIP	2.2M 5% 1/10W	
R175	1-216-089-00	RES, CHIP	47K 5% 1/10W	
R181	1-216-033-00	METAL CHIP	220 5% 1/10W	
R182	1-216-073-00	METAL CHIP	10K 5% 1/10W	
R183	1-216-081-00	METAL CHIP	22K 5% 1/10W	
R184	1-216-129-00	METAL CHIP	2.2M 5% 1/10W	
R185	1-216-089-00	RES, CHIP	47K 5% 1/10W	
R186	1-216-182-00	RES, CHIP	220 5% 1/8W	
R191	1-216-073-00	METAL CHIP	10K 5% 1/10W	
R192	1-216-097-00	RES, CHIP	100K 5% 1/10W	
R203	1-216-041-00	METAL CHIP	470 5% 1/10W	
R204	1-216-109-00	METAL CHIP	330K 5% 1/10W	
R205	1-216-077-00	METAL CHIP	15K 5% 1/10W	
R206	1-216-079-00	METAL CHIP	18K 5% 1/10W	
R207	1-216-222-00	RES, CHIP	10K 5% 1/8W	
R208	1-216-081-00	METAL CHIP	22K 5% 1/10W	
R251	1-216-049-11	RES, CHIP	1K 5% 1/10W	
R252	1-216-089-00	RES, CHIP	47K 5% 1/10W	
R261	1-216-061-00	METAL CHIP	3.3K 5% 1/10W	
R271	1-216-033-00	METAL CHIP	220 5% 1/10W	

MAIN

Ref. No.	Part No.	Description			Remark
R272	1-216-073-00	METAL CHIP	10K	5%	1/10W
R273	1-216-081-00	METAL CHIP	22K	5%	1/10W
R274	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R275	1-216-089-00	RES, CHIP	47K	5%	1/10W
R281	1-216-033-00	METAL CHIP	220	5%	1/10W
R282	1-216-073-00	METAL CHIP	10K	5%	1/10W
R283	1-216-081-00	METAL CHIP	22K	5%	1/10W
R284	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R285	1-216-089-00	RES, CHIP	47K	5%	1/10W
R286	1-216-033-00	METAL CHIP	220	5%	1/10W
R301	1-216-079-00	METAL CHIP	18K	5%	1/10W
R302	1-216-097-00	RES, CHIP	100K	5%	1/10W
R303	1-216-065-00	RES, CHIP	4.7K	5%	1/10W
R304	1-216-077-00	METAL CHIP	15K	5%	1/10W
R305	1-249-429-11	CARBON	10K	5%	1/4W
R306	1-249-429-11	CARBON	10K	5%	1/4W
R307	1-216-073-00	METAL CHIP	10K	5%	1/10W
R308	1-216-105-00	RES, CHIP	220K	5%	1/10W
R331	1-249-393-11	CARBON	10	5%	1/4W
R351	1-216-049-11	RES, CHIP	1K	5%	1/10W
R352	1-249-385-11	CARBON	2.2	5%	1/6W
R353	1-216-065-00	RES, CHIP	4.7K	5%	1/10W
R354	1-216-073-00	METAL CHIP	10K	5%	1/10W
R501	1-216-097-00	RES, CHIP	100K	5%	1/10W
R502	1-216-097-00	RES, CHIP	100K	5%	1/10W
R503	1-216-097-00	RES, CHIP	100K	5%	1/10W
R504	1-216-097-00	RES, CHIP	100K	5%	1/10W
R505	1-216-097-00	RES, CHIP	100K	5%	1/10W
R506	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R507	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R508	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R509	1-216-073-00	METAL CHIP	10K	5%	1/10W
R510	1-249-429-11	CARBON	10K	5%	1/4W
R514	1-216-699-11	METAL CHIP	100K	0.5%	1/10W
R516	1-216-097-00	RES, CHIP	100K	5%	1/10W
R517	1-216-097-00	RES, CHIP	100K	5%	1/10W
R518	1-216-097-00	RES, CHIP	100K	5%	1/10W
R519	1-216-097-00	RES, CHIP	100K	5%	1/10W
R522	1-216-097-00	RES, CHIP	100K	5%	1/10W
R523	1-216-097-00	RES, CHIP	100K	5%	1/10W
R524	1-216-097-00	RES, CHIP	100K	5%	1/10W
R525	1-216-097-00	RES, CHIP	100K	5%	1/10W
R526	1-216-097-00	RES, CHIP	100K	5%	1/10W
R527	1-216-097-00	RES, CHIP	100K	5%	1/10W
R528	1-216-097-00	RES, CHIP	100K	5%	1/10W
R530	1-216-097-00	RES, CHIP	100K	5%	1/10W
R532	1-216-097-00	RES, CHIP	100K	5%	1/10W
R533	1-216-097-00	RES, CHIP	100K	5%	1/10W
R535	1-216-097-00	RES, CHIP	100K	5%	1/10W
R536	1-216-246-00	RES, CHIP	100K	5%	1/8W
R537	1-216-246-00	RES, CHIP	100K	5%	1/8W
R538	1-216-097-00	RES, CHIP	100K	5%	1/10W
R539	1-216-097-00	RES, CHIP	100K	5%	1/10W
R540	1-249-421-11	CARBON	2.2K	5%	1/4W
R541	1-249-421-11	CARBON	2.2K	5%	1/4W
R542	1-249-421-11	CARBON	2.2K	5%	1/4W
R543	1-249-421-11	CARBON	2.2K	5%	1/4W
R544	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R545	1-249-429-11	CARBON	10K	5%	1/4W
R546	1-249-413-11	CARBON	470	5%	1/4W
R551	1-216-097-00	RES, CHIP	100K	5%	1/10W
R552	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R561	1-208-806-11	RES, CHIP	10K	0.50%	1/10W
R562	1-208-806-11	RES, CHIP	10K	0.50%	1/10W
R563	1-216-025-00	RES, CHIP	100	5%	1/10W
R564	1-216-025-00	RES, CHIP	100	5%	1/10W
R571	1-216-097-00	RES, CHIP	100K	5%	1/10W
R572	1-216-089-00	RES, CHIP	47K	5%	1/10W
R573	1-216-089-00	RES, CHIP	47K	5%	1/10W
R574	1-249-421-11	CARBON	2.2K	5%	1/4W
R575	1-216-073-00	METAL CHIP	10K	5%	1/10W
R585	1-216-113-00	METAL CHIP	470K	5%	1/10W
R586	1-216-073-00	METAL CHIP	10K	5%	1/10W
R601	1-249-393-11	CARBON	10	5%	1/4W
R602	1-249-395-11	CARBON	15	5%	1/4W
R603	1-216-186-00	RES, CHIP	330	5%	1/8W
R621	1-216-065-00	RES, CHIP	4.7K	5%	1/10W
R701	1-216-025-00	RES, CHIP	100	5%	1/10W
R702	1-216-025-00	RES, CHIP	100	5%	1/10W
R703	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R704	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R705	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R706	1-216-206-00	RES, CHIP	2.2K	5%	1/8W
R707	1-216-049-11	RES, CHIP	1K	5%	1/10W
R708	1-208-806-11	RES, CHIP	10K	0.50%	1/10W
R709	1-208-806-11	RES, CHIP	10K	0.50%	1/10W
R710	1-216-025-00	RES, CHIP	100	5%	1/10W
R721	1-216-296-00	SHORT	0		
R722	1-216-296-00	SHORT	0		
R723	1-216-296-00	SHORT	0		
R724	1-216-296-00	SHORT	0		
R731	1-216-296-00	SHORT	0		
R732	1-216-296-00	SHORT	0		
R733	1-216-296-00	SHORT	0		
R734	1-216-296-00	SHORT	0		
R751	1-216-198-00	RES, CHIP	1K	5%	1/8W
R752	1-216-049-11	RES, CHIP	1K	5%	1/10W
R781	1-216-049-11	RES, CHIP	1K	5%	1/10W
		< SWITCH >			
S501	1-571-478-11	SWITCH, SLIDE (POWER SELECT)			
S551	1-692-431-21	SWITCH, TACTILE (RESET)			
		< TUNER >			
TU1	A-3282-019-A	TUNER UNIT TUX-008 (EA)			
		< VIBRATOR >			
X501	1-567-713-11	VIBRATOR, CRYSTAL (4.5MHz)			
**********					
		MISCELLANEOUS			
		**********			
9	1-776-207-11	CORD (WITH CONNECTOR) (POWER)			
F781	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) (10A)			
HP901	1-500-157-21	HEAD, MAGNETIC (PLAYBACK)			

Ref. No.	Part No.	Description	Remark
M901	A-3291-665-A	MOTOR ASSY, MAIN (CAPSTAN/REEL)	

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HARDWARE LIST
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#1	7-621-772-10	SCREW +B 2X4	
#2	7-685-793-09	SCREW +PTT 2.6X8 (S)	
#3	7-685-792-09	SCREW +PTT 2.6X6 (S)	
#4	7-685-794-09	SCREW +PTT 2.6X10 (S)	
#5	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT	
#6	7-624-104-04	STOP RING 2.0, TYPE-E	
#7	7-627-553-17	PRECISION SCREW +P 2X2 TYPE 3	
#8	7-685-793-04	SCREW +PTT 2.6X8 (S)	

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ACCESSORIES & PACKING MATERIALS
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3-859-566-61	MANUAL, INSTRUCTION (ENGLISH, ARABIC)	
3-859-567-61	MANUAL, INSTRUCTION, INSTALL (ENGLISH, ARABIC)	
X-3373-412-1	CASE (PANEL) ASSY (for FRONT PANEL)	

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PARTS FOR INSTALLATION AND CONNECTIONS
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501	3-916-161-31	FRAME ASSY	
502	X-3370-077-1	SCREW ASSY (AE. KEY), FITTING	
503	X-3371-913-1	SCREW ASSY (J)	
504	1-776-207-11	CORD (WITH CONNECTOR) (POWER)